

AMERICAN BEE JOURNAL



Apiarian Display of the Southwestern Bee Co., at the International Fair, held at San Antonio, Texas.—See page 71.



Wayne Pavilion, or Sun Palace, in Detroit, Mich., where the National Bee-Keepers' Convention will meet, October 13, 14 and 15, 1908.—See page 72.

American Bee Journal



PUBLISHED MONTHLY BY
GEORGE W. YORK & COMPANY
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Objects of the Association.

- 1st.—To promote the interests of its members.
- 2d.—To protect and defend its members in their lawful rights.
- 3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, \$1.00.

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The new 1908 catalogue referred to above, gives a description of this corn and all of their other specialties in flower seeds, garden seeds, etc. Mention the American Bee Journal when writing.

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The North Texas Bee-Keepers' Association will meet on the first Wednesday and Thursday in April. All bee-keepers are invited to attend. Come along and let's make it the best meeting we have ever had. Free entertainment is provided for all.

Blossom, Tex. W. H. WHITE, Sec.

Contents for March, 1908

ILLUSTRATIONS—

Apiarian Display of the Southwestern Bee Co.....	1st Page
Edwin France.....	77
Red Flowering Currant of California.....	84
Wayne Pavilion for National.....	1st Page

EDITORIAL NOTES AND COMMENTS—

Breeding Queens or Drones from Best?.....	70
Feeding Bees for Winter.....	70
Liquefying Extracted Honey.....	69
Making More Bee-Keepers.....	69
Prevention of Swarming.....	70
Prolificness of Queens.....	70

MISCELLANEOUS NEWS-ITEMS—

Bee-Keeper's Complaint.....	71
Bee-Supply Catalogs Improved.....	72
Death of Mrs. F. Danzenbaker.....	71
Four Deaths in One Family.....	71
Honey from New York to Detroit.....	72
Italians and Blacks as to Diseases.....	71
Michigan State Convention.....	72
National Convention in Detroit.....	72
Northern Michigan Convention.....	73
Pair of Corrections.....	71
Pan Handle Bee-Keepers' Convention.....	72
Plea for Spring.....	72
Texas Apiarian Exhibit.....	71
Two Queens With Clipped Stings.....	71
"Uncle Joe's" Bee-Keeping Career.....	71
We Commend Our Advertisers.....	72

OUR BEE-KEEPING SISTERS—

Double-Wall Hives.....	74
Entrance Treatment of Robber-Bees.....	73
Fine February "Swarm".....	74
Increase.....	74
Living Hive-Lifter.....	73
Perhaps Queenless and Being Robbed.....	74
Prevention of Foul Brood.....	74
Rats and Bees.....	73

CANADIAN BEEDOM—

Bee-Keepers a Clean People.....	75
Divisible Brood-Chamber Hive.....	75
Honey-Vinegar.....	75
Old-Fashioned Winter.....	74
Poison Mixture for Rats and Mice.....	75
When to Supersede Queens.....	75

SOUTHERN BEEDOM—

Cause of Rapid Consumption of Stores.....	76
"Hunting Bees in Texas (?).....	76
"Marigold" Honey.....	76
Time for Spring Examination.....	76
Warm Winter in Texas.....	76

BIOGRAPHS OF BEEDOMITES—

Edwin France.....	76
-------------------	----

CONTRIBUTED ARTICLES—

Apiarian Rights of Priority Questioned.....	80
Bee-Territory and Legislation.....	79
Exhibiting and Selling Granulated Honey.....	79
Extension Work in Agriculture.....	80
Filling Sections With Comb Foundation.....	78
Honey and the Pure Food Law.....	78
Liberal Education.....	80
Preparing for the Honey Harvest.....	77
Reliquefying Granulated Honey.....	80
Removing Sections from Wide Frames.....	78
Valuable Bulletin.....	80
Well-Ripened Honey.....	80

CONVENTION PROCEEDINGS—

Fall Honey for Winter Food.....	82
Foul Brood and Its Treatment.....	81
History of Bee-Keeping.....	82
Marketing Honey.....	82
Production of Honey.....	82
Reading Bee-Papers.....	82

Report of Chicago-Northwestern Bee-Keepers' Convention.....	82
Requeening and Queen-Rearing.....	82
Siftings from a New York Bee-Keepers' Institute.....	81
Wintering Bees.....	82

REFLECTIONS OF CALIFORNIA BEE-KEEPER

Changing Names.....	83
Honey and Lemons.....	83
Flowering Wild Currant.....	84

DOCTOR MILLER'S QUESTION-BOX—

Absolutely Pure Honey.....	86
Afterswarms.....	88
Air-Space in Super Cover.....	85
Alsike Clover Seed.....	86
Average Yield Per Colony.....	87
Bee-Cellar Temperature.....	88
Best Extracting Frames and Sections.....	84
Best Hive for Wintering Out-Doors.....	85
Bumping Bees Off Frames.....	88
Chunk Honey vs. Section Honey.....	85
Comb Honey Shrinking.....	87
Comb or Extracted Honey?.....	86
Difference in Bees.....	85
Drone-Laying Queens and Laying Workers.....	85
Dudley Tube Method.....	86
Feeding Candied Honey.....	86
Foolish Questions?—Hardly.....	87
Foul Brood.....	85
Getting Increase and Honey.....	86
Getting Increase Otherwise than by Natural Swarming.....	85
Hybrids vs. Italians.....	85
Increase.....	85
Insuring Bees.....	86
Italianizing.....	85
Italian vs. Hybrid Bees.....	87
Keeping Bees on a Small Lot.....	86
Location of Queen-Cells.....	86
Management for Increase of Honey.....	87
Moving Bees.....	85
Natural Swarming Wanted.....	86
Observation Hive for Wintering.....	86
Packing Bees for Winter.....	86
Painting Shipping-Cases.....	87
Personal Reminiscences.....	87
Preventing Afterswarms.....	85
Price for Honey.....	85
Queens in Cells by Mail.....	87
Queer Swarms.....	85
Section Foundation.....	84
Separators.....	88
Splints for Foundation.....	86
Storing Much Pollen in Frames of Comb Honey.....	87
Top and Bottom Starters.....	88
Using Hives and Supers After Foul Brood.....	84
Valuable Ideas on Bees.....	86
Why Didn't They Store Honey?.....	84
Wintering Bees on Platform.....	85
Wintering Bees Under Bank Barn.....	85
Wintering on Sugar Candy.....	86

REPORTS AND EXPERIENCES—

Bee-Keeping in Oklahoma.....	89
Bees Flying in Iowa.....	89
Bees in a "Vinegary" Cellar.....	89
Bees Seemingly Doing Well.....	89
Bees Under Snow.....	89
Bumble-Bees.....	89
Fair Years With Bees.....	89
Honey in California.....	89
Real Winter Spell.....	89
Report for 1907.....	89
Salt as Moth Remedy.....	89
Several Years' Experience.....	89
Some Southern Honey-Plants.....	89
Vinegar in Bee-Cellar.....	89
Winter Bee-Shed.....	89

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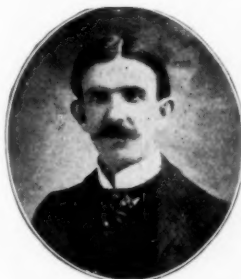
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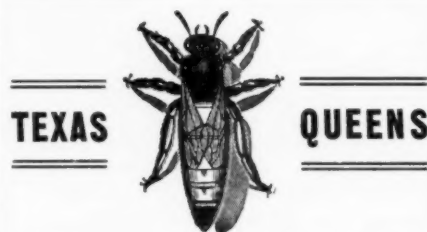
we will mail you the book free as a premium.) Every bee-keeper ought to have both the book and the Bee Journal, if not already possessors of them.



As Dr. Miller gets a royalty on his book—so many cents on each copy sold—every bee-keeper who buys it is thus helping a little to repay him for his effort to lead others to success through his writings on bee-culture.

As we have a good stock of these books on hand, we can fill all orders by return mail. This is the time of year to read up on bee-keeping. Better send us your order at once for Dr. Miller's book, and study it carefully so as to make the most of the bee-season. Address,

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GEORGE W. YORK, Editor

CHICAGO, ILL., MARCH, 1908

Vol. XLVIII—No. 3



Making More Bee-Keepers

We have received the following letter from one of our Michigan subscribers:

EDITOR YORK:—I am a bee-keeper and a subscriber to the American Bee Journal. Believing that you have no ax to grind by selling supplies, I would like to ask a few questions.

I see so much in another bee-paper about Prof. "Bugaboo" teaching people how to keep bees. Knowing that he isn't paid by the producers of honey, I would like to know who "feathers his nest" for him. It must be some bee-supply dealers. Of course, he is a curse to the bee-keeping industry. If people believe one-half that he tells them, he would turn out about ten thousand new bee-keepers every year, and in 5 years honey wouldn't bring over 5 cents a pound. The supply influences the price. We have that illustrated every few years. It doesn't make any difference whether it is potatoes, sheep, cattle, or some other produce, if everybody goes into the business the price flunks.

There is no other business in which men are hired to run all over the country to boom. I think the National Bee-Keepers' Association would better wring Prof. "Bugaboo's" neck, if they want to keep up the price of honey. If it is the bee-supply dealers who are booming the business we want to know it.

This letter is the sentiment of all the bee-keepers in my locality. I wish you would print it in the American Bee Journal.

EDWARD CORWIN.
Dowagiac, Mich., Jan. 8.

You are right, Mr. Corwin, in thinking that the American Bee Journal is entirely independent of any bee-supply business. It is interested only in the

spread of the best literature among the bee-keepers through its own columns, and various most excellent books on the subject of bee-culture. We certainly have no ax to grind through selling bee-supplies, but of course we would like to see all of the dealers who patronize our advertising columns make a success of their business. If it were not for the advertising patronage the American Bee Journal certainly could not be furnished at 50 cents a year.

We are not certain that Prof. "Bugaboo" could do as much harm as you seem to think, even if he should be trying to make more new bee-keepers. In all probability not a large percentage would make a success of it, or stick to it for more than a year or two, but after having a taste of honey, they no doubt would make good customers for those who had stayed in the business of honey-production as a specialty. Of course, the beginners' outfits of supplies that they would buy might in one way be considered a loss to them, and yet the information that they might get in handling a few bees might be worth all the experiment cost them. Certainly the little honey that new bee-keepers might produce would not affect any market. About the only difficulty we can see in their starting and producing a little honey is, that they don't care anything about getting a fair price for it. However, their honey never gets very far from home, so that in all probability it does not affect the large city markets.

After having said this much, we would like to add that we know nothing about who pays Prof. "Bugaboo" for what you say he is doing. It may be that he has a good wad of money

laid by so that he can spend most of his time in the way he seems to be doing, without much expense, and at the same time he may be a sort of "feeder" for the business of bee-supply dealers.

We might say that the American Bee Journal is anxious to get as many subscribers as possible, but it has never been our aim to increase the number of bee-keepers. What we have always wanted to do is to get every one who now has bees to subscribe for and read this Journal, so as to learn to produce the most honey in the best possible way. We also believe that the reading, up-to-date, educated bee-keeper will not be a detriment in the open honey market, but will be as anxious as the largest specialist to keep the price of honey up to where it ought to be. We think that if every bee-keeper who is now a reader of the American Bee Journal would try to educate his neighbor bee-keepers by getting them to read not only the American Bee Journal, but also the best books on the subject of bee-keeping, it would tend to the betterment of every one connected with the business.

If there were more local bee-keepers' conventions held, so that every one who has bees would be able to attend them and learn the best methods of honey-production, and also as to marketing, etc., who would doubt that in a very short time the bee-business would be put upon a more substantial basis, and the demand for honey be greatly increased?

Liquefying Extracted Honey

When heat is applied to extracted honey to liquefy it, it will be found that the center of the mass will remain solid long after the outer part has become melted, and the danger is that the outer part will become overheated while the center is melting. This danger is the greater, the lower the temperature of the whole mass when the heat is applied. If the entire lot be at the freezing point, the center may easily remain solid while the outer part has been spoiled by boiling. The plain suggestion is that we should have the mass warm before beginning to melt it. Let it remain in a room whose temperature has been raised to 100 degrees, or as near

American Bee Journal

as convenient to that point, until the whole mass has been warmed through to the center, and then a very little heat will melt the center. Indeed, it is possible that by leaving it in such hot air a sufficiently long time it may become liquid throughout without additional heat.

The foregoing sensible suggestion is given by R. F. Holtermann, in "Gleanings in Bee Culture," and to it might be added that when the quantity to be liquefied is small, the old plan of leaving it over the reservoir of a cook-stove for a number of days is excellent. It will warm and cool a number of times, but there is plenty of time for it to be warmed entirely through, and it can never become overheated.

Breeding Queens or Drones from Best?

On page 43, Mr. Scholl advises getting a few good queens, rearing young queens from the best one, encouraging drones from the rest of these good queens, and discouraging drones in all other colonies. With regard to this the following questions have been raised:

"Suppose I get 3 or 4 queens, how can I tell which is best? As we are told that the character is derived more from the father than the mother, would it not be better to breed drones from the very best queen, and queens from the others?"

If the 3 or 4 queens are all good, it is not likely that any one can select the best by merely looking at them. That can be told only by keeping close account of the work of the worker progeny of each queen, and then comparing results. That, of course, obliges selecting at random the first year; but in most apiaries that could not fail of improvement if the queens purchased be really good.

With regard to rearing drones or queens from the very best queen, better results might be obtained if drones were reared from the best and queens from the next best, *provided* one could be sure that no other but these best drones should meet the young queens. But as it is practically certain that a considerable proportion, if not a large majority, of the virgins would meet other drones, and as one can be entirely certain as to the parentage of the virgins, the advice of Mr. Scholl is eminently sound. Indeed, in most cases there would be a sure improvement by purchasing a single good queen from which to rear virgins, and discouraging drones in all but a few of the better colonies in the yard.

Prevention of Swarming

In one of his replies, Dr. Miller said something about discovering a plan whereby swarming might be prevented with very little time taken, and without ever seeing a queen. As he gave no particulars, and hinted something about a secret, it was left somewhat uncertain whether it was anything more than a joke. But the Doctor says there is no joke in the case, except as to the matter of secrecy. Moreover, he says he has practised the plan in a good many cases,

and thinks it more reliable than the plan of shaking swarms, to which he much prefers it. Here is the plan:

"Just before danger of swarming, shake and brush into the hive all the bees from all combs but one, that one being one of the outside combs with the least brood, and put beside it 2 entirely empty frames—no starters—leaving the balance of the hive vacant; over this put an excluder and a second story with the brood, a dummy filling the vacancy, and then the supers. Ten days later (in several cases it worked all right with 7 days) remove the second story, returning brood and bees to lower story. A little comb will be found built into the 2 empty frames, which may be melted up or otherwise disposed of."

Only trial will tell whether the plan will work as well with others, but should it do so it will be a step well in advance. Over the plan of shaking swarms it has the distinct advantage that no brood is taken away. To be sure, there is a loss of the queen's laying for 10 days—possibly 7—but that is quite different from the loss of 21 days' laying when a swarm is shaken. Moreover, it is quite possible that there is compensation for the loss of the 10 days' laying, in the fact that during that time the queen has a real rest, for with nothing but the outside comb and the little comb that is built in the empty frames she can lay but few eggs. In the shaking plan there is no such rest. That rest may be an important factor.

We don't know whether this plan is Davenport's secret, but it fulfills the conditions. Now maybe Mr. D. will tell us all about his plan to prevent swarming.

Prolificness of Queens

Other things being equal, a queen which keeps up a large amount of brood is to be preferred. But if one queen keeps twice as many frames filled with brood as another, it does not necessarily follow that the one colony is twice as valuable as the other. Two important factors in the problem are to be considered. The less prolific queen may have workers of greater industry, so that her smaller force may do more storing. Her workers may live longer, so that with a smaller amount of brood she may keep up an equal population. On the whole, a pretty safe way to compare two colonies as to value is to compare the amount of surplus stored by each.

Feeding Bees for Winter

In the Canadian Bee Journal (page 5) is quoted the item headed, "Feeding Bees for Winter in Canada," on page 741 of the American Bee Journal, ending with the question, "After reading these three varying views from three authorities, and all under the same cover, is it any wonder the beginner should feel somewhat dizzy?" Then Editor Hurley remarks:

"Editor York has done us a service. Differing conditions make it impossible to lay down any hard and fast rules. Let us suppose Friend York had added his opinion in a small paragraph at the foot of the above three, would the dizzi-

ness have been increased or lessened? It would have been very interesting to have seen it there."

More than one reason may be given. Mr. Hurley, why such opinion was not added. Please note that feeding in Canada was under discussion, and it might have seemed an impertinence for one dwelling under the Stars and Stripes to have intermeddled. Again, it would only have made the beginner more dizzy, and that seemed an unnecessary cruelty. For said opinion, based on the needs of this locality, would have been, "Don't feed at all." And then he *would* have been dizzy.

Please note, however, that no question was raised as to the correctness of each opinion given, only to the divergence of views. And one of the first things the beginner needs to learn is that "differing conditions make it impossible to lay down any hard and fast rules." Along with that he needs also to learn that he must use his own head, and decide in each case whether conditions in his case warrant the following of any given rule. If the beginner in this locality were invariably to follow the rule to do no feeding for winter, it would cost him the loss of many a colony. For while conditions are generally such that a colony which has been strong enough to do super-work may be counted on to lay up from late flow a goodly store for winter use, there may be exceptions in individual cases, and there may be years of failure.

Editor Hurley gives in detail the course of the season in his locality, breeding keeping up continuously, the season ending with a buckwheat flow. The same thing occurring here, the expectation would be to find hives well stocked for winter, with no need of feeding. But if he finds it a fact that it is necessary to feed, it's hardly worth while to dispute facts. There may be a difference in bees, some crowding honey into the brood-chamber more than others. Very likely Mr. Hurley's experience is with extracted honey, while in this locality comb honey prevails, and it is well known that there is a greater tendency to crowd honey below sections than below extracting combs. On this point of difference the remarks of J. L. Byer, on page 13, are enlightening.

But the intention was not to enter into any general discussion of the subject of feeding; rather to emphasize the point that while the wise bee-keeper, whether beginner or veteran, will learn all he can from others, he will at the same time not fail to do his own thinking.

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a 2-cent stamp; 50 copies for 70 cents; 100 for \$1.25; 250 for \$2.25; 500 for \$4.00; or 1000 for \$7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.



Miscellaneous News - Items

Death of Mrs. F. Danzenbaker

We received a letter from Mr. F. Danzenbaker, on February 24, saying that his wife was stricken with Bright's disease of the kidneys which ended in death, February 13. We are sure that Mr. Danzenbaker has the sincere sympathy of all our readers, in his bereavement.

Four Deaths in One Family

The Medina County (Ohio) Gazette, of February 14, contains the notice of 4 deaths within a week in the family of W. K. Morrison, assistant editor of *Gleanings in Bee Culture*. Mrs. Morrison and a 2-year-old son died of pneumonia, the other two being twin babies that died at birth. The 3 children were all laid to rest in the same casket on Saturday, while the mother passed away on the following Monday.

The Morrison family came to Medina, Ohio, two years ago, from Porto Rico, Mrs. Morrison being a native of Bermuda. Mr. Morrison was born in Ohio, but had lived in the West Indies most of his life. Six children between the ages of 2 and 18 are left motherless, the oldest being a daughter, who at the time was dangerously sick with pneumonia. The sincere sympathy of all will go out to Mr. Morrison in his deep sorrow.

A Pair of Corrections

We have received the following from Dr. Miller:

MR. EDITOR:—While commending the *American Bee Journal* for having reports so generally correct, I want to call attention to a pair of errors on page 50. I am there made to say "that bees should be put into the cellar the day before the last day that is fit for them to fly in the fall." That would be a very foolish proceeding. The advice will be all right if "the day before" is changed to "the day after."

At the close of the same page occurs: "Dr. Miller said the bees ball a queen to protect her." Generally there is no thought of protection, but just the contrary. The whole discussion is misleading, because the question reads, "Why Do Bees Ball Queens?" It should have read, "Why Do Bees Ball Their Own Queens?" C. C. MILLER.

We are always glad to correct anything that is of importance and that might be misleading to beginners. The *American Bee Journal* would like to have everything right in its columns, and thanks any one for pointing out real errors, such as Dr. Miller calls attention to in the foregoing.

A Bee-Keeper's Complaint.

Winter—cold the wind is blowing, and the air is full of snow
And the shrouded trees and fences stand like melancholy ghosts;
And the winter demons shrieking in the roaring winds that blow
Fill the earth with desolation with their chilling, killing frosts.

Grass and herb and leaf and blossom, fruit and beauty—all are gone;
Death now plays his solemn dirges on the bending leafless trees—
And our hungry hearts are longing for the glowing summer sun
And the song of lark and robin and the humming of the bees.

Say, you man who lauds the winter, what's the matter with your mind,
That its sympathies can leap so glibly out to meet the cold,
When its icy fingers throttle everything of living kind,
And in frozen sheets of ermine, Beauty's corpse is coldly rolled?

Look upon the bud and blossom, then upon the naked bough,
Breathe the perfumed air of summer, face the wintry winds that freeze,
Tell me, is the charnal stillness that pervades all nature now,
Better than the living summer with its song of birds and bees?

When we think of the Hereafter, do we think of ice and snow?
Of a wintry blizzard traveling forty—fifty miles an hour?
(Don't imagine I am planning for the regions down below,
Where the furnace fires are blazing and the eyes of demons glower!)

No, we think of endless summer, of a ceaseless bud and bloom,
An eternity of everything that most the heart can please;
Of a paradise of beauty, where cold death can never come,
Of a country always filled with joyous song of birds and bees.
Bellevue, Mich. C. H. BENSON.

"Uncle Joe's" Bee-Keeping Career

It seems from an article in *The Delineator* that the speaker of the U. S. House of Representatives had a career as a bee-keeper that was brief as brilliant. He had not enough money to begin married life till 1862, and even then was pretty poor.

"Joe took his mother's advice and began home-making 'in the good old way.' That consisted in building a house for himself and getting a cow, a pig and a colony of bees. The cottage was a little 3-room affair, and as for the live stock—let him tell it himself, as he often has:

"There I was, up against a real problem. I went out brave as life and tried to milk that cow. She kicked me off the stool. I tried to feed the calf and got butted into a hedge fence. Then I saw that the bees had swarmed, so I went to hive them,—the way my father used to do. I got bees inside my shirt

and inside my trousers until I like to get stung to death. I hired a man, right away, to look after the stock. That was all that I wanted of them."

Two Queens with Clipped Stings

More than once it has been suggested that a plurality of queens might perforce live together if their stings were clipped. In at least one case it has been tried and found not a great success. Earl Bussey thus gives the particulars, in *Gleanings*:

"I took 2 queens and cut off their stings by folding the abdomen over my thumb-nail, and pressing, when their stings came out and were amputated. These stingless queens being taken from a double colony, one above the other, with excluder between, did not have to be introduced in the usual manner, so I turned them loose at once, each on an opposite side of the hive. In 2 hours I looked in, and on lifting out the third frame I saw the 2 queens come together, and right there I witnessed one of the fiercest battles I ever saw. The bees stood around like referees, forming a circle around a prize fight, and not one of them offered to interfere. But as a battle it was a bloodless one, so I left them until late in the evening, when, on looking, I found them still fighting. One of them seemed to be getting the best of the other, for she had gnawed off one wing completely. So I separated them by putting one of them below the excluder, and I may say that they are just as I left them, both of them having done good work the rest of the season, and seeming none the worse for the loss of their stings and their battle."

Italians and Blacks as to Diseases

As to paralysis, W. D. Wright, one of the New York inspectors, says: "It is more prevalent among Italian bees than blacks, although I have known of an apiary of both races to suffer from it."

On the other hand, referring to European foul brood, he says:

"For 5 years I have vigorously advocated thoroughly Italianizing all stock within or near the line of diseased territory, as an aid in subduing and prevention of the rapid spread of this disease. Some apiarists have naturally supposed that I had an ax to grind, and have inquired of me, if I had queens for sale. The leather-colored or 3-banded stock is the only strain that I would recommend for this purpose."

A Texas Apiarian Exhibit

Mrs. A. I. Davis, wife of the manager of the Southwestern Bee Company, of San Antonio, Tex., sends us the following:

EDITOR AMERICAN BEE JOURNAL:—

The picture on first page shows our exhibit at the International Fair, at San Antonio, Tex., Nov. 9 to 24, 1907.

This exhibit was not only the best and largest of any firm ever shown, but was the prize-winner, taking the diploma for honey, beeswax, and supplies.

The wall on the right shows row

American Bee Journal

after row of bottled honey as we place it on the market, with hives in packages of 5 lined upon each side. This honey was bottled 5 at a time by a machine invented by Mr. A. I. Davis.

In the background can be seen different size bottles of honey in all forms; pure vinegar, made of honey and water; honey and tar—a much-used medicine made and put up by us; and fruit preserved in honey, which received first and second prizes, the judges saying it was the richest preserved fruit they had ever eaten.

The left wall, which can be seen but dimly, contains box after box of section honey piled to the ceiling.

In front can be seen our new, up-to-date, modern bee-hives, for which we received a diploma, as they are considered the best ones on exhibition, as judged by the largest and best bee-keepers in Texas.

MRS. A. I. DAVIS.

San Antonio, Tex., Jan. 27.

We have not yet forgotten the large and splendid apiarian exhibits at the San Antonio Fair in 1906. It certainly was a pleasant surprise to us, to see what great things those Texans could do in the bee and honey exhibition line. It was fine.

Honey from New York to Detroit

The United States Department of Agriculture has been doing some figuring lately, which results in quite a good showing for the honey-business. The figures indicate that the honey crop of one year in the United States, if loaded on freight cars, would make a train extending in a straight line from New York City to Detroit, Mich., and valued at \$25,000,000. Not such a small affair, after all, if those "figures don't lie," as it is said some figures do, sometimes.

The National Convention in Detroit

Secretary Hutchinson sends the following description of the place of holding the next meeting of the National Bee-Keepers' Association, to which we do not feel that we could add anything:

The National Convention has not always been fortunate in its place of meeting. Sometimes it has been held near a noisy, dusty street, where the rattling of trucks over stone pavements, and the rumble of street cars, would often completely drown the speaker's voice. Again it has been held in some hot, close hall, up two or three flights of stairs.

We have not always been thus unfortunate. Some of the meeting places have been very comfortable and well adapted to our needs; but never, in its 40-odd years of existence, has the National Association met in a place so ideally perfect as the one chosen for the coming convention, to be held next October, in Detroit, Mich. It is the pavilion, or sun-palace, built by the Wayne Hotel almost expressly for the use of conventions. It is back of the hotel, away from the noise and dust of the main street, and extends down to the very edge of the Detroit river; where the traffic of the great lakes may be seen passing and repassing, at all hours of the day. At one side of the pavilion is a little garden, or private park, filled with beautiful flowers, lawns and walks. On the other side is Third Street, but it is paved with asphalt, which gives little sound; besides, the street ends at the river, and is not much used opposite the pavilion.

The pavilion is two stories high, and it is in the upper story where the convention will be held. The sides can all be thrown wide open, allowing the cool, river breezes to

sweep through; or the windows may be all drawn down, if desirable. If the weather is cool enough to need it, steam heat can be turned on. In fact, we will be able to rid ourselves of noise, dust, heat or cold. We can sit at our ease, with the beautiful river at our feet, and the spires, chimneys, and wooded hills, of the King's domain (Canada) looming up in the distance.

Near the center of the pavilion, but somewhat to one side, is an enclosed space, perhaps 40 or 50 feet across, the sides mostly of glass, and extending from floor to ceiling. In this will be a capital place to exhibit honey, wax and supplies—near at hand, yet not right in the convention room, which sometimes causes annoyance.

All of these comfortable quarters will be free, with the understanding that we make our headquarters at the Wayne Hotel. The Wayne is a strictly first-class house—what some of us common folks might call high-priced. It has an unusually large office, or lobby, with two fire-places, or grates, as they are now called, marble floor and supporting pillars, with large, leather-bound lounging chairs and sofas—a delightful visiting place for us between sessions. Everything is quiet, orderly, and well managed—no more desirable stopping place could be found.

What are the rates? They run from \$2.50 to \$4.50, American plan—that is, including meals—but here is the bargain that we have made: They will take care of 150 bee-keepers at \$2.50 per day, provided 2 will occupy the same room—and who ever heard of a bee-keeper at a convention who wished to be put off alone in a room, all by himself? In order to give this flat rate for so large a number, many rooms will be used for which the charge, ordinarily, is much higher.

Of course, no one will be compelled to stop at the Wayne, and there are other hotels within 2 blocks where 200 people, extra, can be cared for at from \$1.25 to \$2.25 per day. In these times, however, it is difficult, in a large city, to secure really desirable accommodations at much less than \$2.00 a day, and when one has paid that much, besides several other dollars to reach the city, it seems foolish to allow a paltry 50 cents a day to stand in the way of joining the crowd, and being "one of the boys."

One thing more: The Michigan Central and the Big Four railroad station stands just across the street from the Wayne, while the Union station, used by the Pere Marquette, Wabash, and Canadian Pacific, is only 2 blocks away. The Grand Trunk and the Lake Shore and Michigan Southern station is several blocks away, perhaps 7 or 8, but is easily reached by street cars that pass the Wayne. The electric suburban car station is within easy walking distance—only 4 or 5 blocks.

The dates for holding the convention have been fixed on October 13, 14 and 15—at a time when the weather conditions in the North are usually ideal. The heat and dust of summer have past, and wintry blasts and snowdrifts are then in the distant future.

Flint, Mich. W. Z. HUTCHINSON,
Secretary National Bee-Keepers' Association.

A Plea for Spring.

Come, my charming pussy willows,
Shake again your fluffy pillows
In the lap of tardy spring;
Let me hear once more the wing
Of the Priestess Honey-Bee,
As she earns her marriage fee—
Claiming gold for every rite,
Whisper'd e'er she takes her flight.

Ye are first of all the cousins
To unfurl your flags by dozens.
Brave and hardy as an oak,
Every flow'r-bud wears a cloak,
March winds do not frighten ye,
Mad and spiteful tho' they be.

Welcome, pussy-willow friends,
First to bloom when winter ends.
We shall hear the bluebirds sing
When ye tell them it is spring.

Forest City, Iowa. EUGENE SECOR.

Bee-Supply Catalogs Improved

We note in some of the 1908 bee-supply catalogs there is quite an improvement over those of preceding years. As compared with some of the incubator and poultry-supply catalogs that we have seen, the bee-supply catalogs have

simply not been "in it" at all. So we are glad to see the attempts at improvement being made in the catalogs of bee-supply dealers.

Two of the most striking so far, that have come to our desk are the catalogs of the Gus Dittmer Company, of Augusta, Wis., and the G. B. Lewis Company, of Watertown, Wis. Both are very neat, indeed, and are gotten up in good style.

We don't see why bee-supply catalogs should have been so far behind some others for so many years. But doubtless as the industry of bee-keeping grows there will also be a notable improvement in the appearance of its current literature, although what little there is in that line we think compares quite favorably with the literature of most other pursuits—at least, it is as good as could be expected when the low subscription prices are considered.

We Commend Our Advertisers

We want to call particular attention to our advertisers. We believe, they are a clean, honest lot of people, else their advertisements would not be found in our columns.

We want especially to invite our readers to patronize the advertisers who use space in the American Bee Journal. It would be utterly impossible to publish this Journal were we to depend entirely upon the receipts from subscriptions alone. We wish our subscribers to help us to encourage those whose announcements are found herein, by sending them orders whenever it is possible to do so. We are desirous of increasing our advertising patronage, and believe it can easily be done if those who already use such space find that it is profitable to them. And the way to aid us to make it profitable is for all, so far as possible, to remember our advertisers when needing anything they offer to sell.

Be sure, always, to mention having seen it in the American Bee Journal when writing to any one whose advertisement you are answering that appears in these columns. It will help both the advertiser and ourselves.

Pan-Handle Bee-Keepers' Convention

The Pan Handle Bee-Keepers' Association will meet in Knights' Golden Eagle Hall, corner 38th and Jacob Sts., Wheeling, W. Va., March 25, 1908. The morning session at 10 o'clock, the afternoon at 1 o'clock; and the evening at 7 o'clock. The object of the Association is to promote and protect the interests of its members. All bee-keepers are requested to attend. Ladies are cordially invited.

Blaine, Ohio. W. L. KINSEY, Sec.

Michigan State Convention

The next annual meeting of the Michigan State Bee-Keepers' Association is to be held in connection with the National Convention in Detroit, October 13, 14 and 15, 1908. Secretary Elmore M. Hunt, of the Michigan Association, is making a systematic effort to increase the membership of his Association to 200 by the time of the meeting in October. Surely

American Bee Journal

every bee-keeper in Michigan ought to join at once, as \$1.00 will pay his dues for a year in both the Michigan and National Associations. Send your \$1.00 to Elmore M. Hunt, Redford, Mich.

We are hoping there may be such a bountiful honey crop during the coming season that every bee-keeper who has the least inclination to attend the convention in Detroit will be able to do so. We would like to see it the largest and best meeting the National has ever held. Detroit is an ideal convention city, and the fact that it is located so near the Canadian border where there are so many excellent bee-keepers, would seem to insure the most representative gathering of bee-keepers of all America. Perhaps our California bee-keeping friends will be able to get together a special carload to start from Los Angeles. Of course they could pick up lots of big bee-keepers all along the way, so that possibly by the time they arrived in Detroit, they would have increased to a whole train-load. That would be making "increase"—not by division, but by the more natural way of "addition."

We may possibly be able to get a carload to start from Chicago, although, of course, the distance is hardly long enough to insure as enjoyable a time as was had when going from Chicago to Los Angeles or to San Antonio. But undoubtedly the Michigan bee-keepers will be able to make up for any shortage in enjoyment, after we all get there.

Northern Michigan Convention

The Northern Michigan Bee-Keepers' Association will hold its next meeting in Medalie Hall, Mancelona, Mich., April 8 and 9, 1908, beginning the forenoon of the 8th. The convention headquarters will be at the Handy Hotel, with a rate of \$1.50 per day. A picnic dinner will be served at the Hotel on the second day of the meeting. The papers on the program are as follows:

"Producing Extracted Honey"—S. D. Chapman.

"Out-door Wintering"—Ira D. Bartlett.

"Why I Use the 12-Frame Hive"—J. N. Harris.

"The Certainties and Uncertainties of Honey Production in the Extreme North"—C. F. Smith.

"Deciding Which to Produce—Comb or Extracted Honey"—W. Z. Hutchinson.

"What is the Object of Holding Bee-Keepers' Conventions"—Hon. Geo. E. Hilton.

"How to Extract Honey with the Least Help"—E. E. Coveyou.

"Cellar-Wintering of Bees"—O. H. Townsend.

"Red Raspberry Honey: How Its Name may be Improved or Abused"—Geo. H. Kirkpatrick.

"Management in the Production of Comb Honey for Profit"—A. H. Guernsey.

"The Non-Swarming Hive"—L. A. Aspinwall.

Prizes for making exhibits are offered as follows:

Best Case Comb Honey—1st, Danzenbaker hive, nailed and painted; 2d, American Bee Journal one year.

Best 10 pounds of Extracted Honey—1st, Aspinwall Hive; 2d, Bingham Smoker.

Best 5 pounds of Beeswax—1st, Woodman hive; 2d, Bee-Keepers' Review one year.

Best New Invention for Bee-Keepers and Honey-Dealers—1st, 500 sections; 2d, "A B C of Bee Culture."

For further information address the Secretary, E. E. Coveyou, Petoskey, Mich.



Conducted by EMMA M. WILSON, Marengo, Ill.

A Living Hive-Lifter.

This from Mr. J. L. Anderson of Harvard, Ill.:

"Speaking of 'hive-lifters,' we have had one in use for 44 years. Is good yet. Perfectly adjustable to all conditions. Apparently good for a long time yet. It belongs to the 'genus biped.' Think every lady ought to have one. Don't you?"

J. L. ANDERSON.

Well—now, Mr. Anderson, perhaps. Do you think they would all prove equally satisfactory?

Rats and Bees.

A rat can do a whole lot of mischief in a hive in winter, as well as mischief elsewhere, and any help towards getting rid of these unwelcome visitors will be welcomed by the sisters. Mrs. L. B. Shank thus reports in *Gleanings in Bee Culture*:

"A year ago we moved on to this place, and it was the worst-infested place one can imagine, and has been for the last 24 years that we have been acquainted with it. We were fully determined to get rid of the rats. We got four different kinds of traps, and then tried every thing we could hear of; and when you said 'rat biscuit' my husband laid in a supply at once; but they were like all the rest—just seemed to act like a tonic, and still the rats came. At last one of our hired boys told me he had seen a sure cure for rats, in a paper. I told him to tell me quick, as we were at the point of collapse. He said, pour syrup, or any thing the rats are fond of, on to a board and sprinkle with dry concentrated lye. As I had found the rats preferred nice, firm ripe tomatoes to any thing else I had on hand, I sliced up several about one-half inch thick, and placed in different parts of the house. In the morning they had eaten all I put out. The second night they ate half as much. The third night only a few pieces were gone. The fourth night they did not touch the tomatoes nor anything else, and we have not seen nor heard of a rat or mouse in the house since, about six weeks ago. A couple of weeks afterward Mr. Shank said there were as many as ever in his barn and granary, and he thought I had only driven them out to the corn; so I fixed the tomatoes

the same as before, with the same effect. The third night was the last. We think it is truly wonderful to be without the horrible things, so we just concluded to let you tell others.

"Just sprinkle the dry concentrated lye (I use the Banner, as it is so handy) on the top of the tomatoes. Other articles may do as well."

Entrance Treatment of Robber-Bees.

Mr. Allen Latham says this in the *American Bee-Keeper*:

"I suppose that someone, probably many, will say that I am maltreating the truth when they read my next statement. But here goes:

"Last summer I stepped out to my apiary to find one of my colonies fighting robbing, and fighting it unsuccessfully. This colony had had its 13 by 1 entrance cut down to 4 by 3/8 because it was not over-strong. It was a hot day. I studied the situation a moment and decided upon a bold move. I pulled out the entrance-block, leaving thus the full entrance. 'Goodness!' I hear some one exclaim, the mildness of the word signifying that that person is of the sister's department in the 'Old Reliable.' But I did it. I watched a moment, and noted that the home-bees seemed relieved. Also noted that the robbers seemed confused. Apparently the robbers had lost the trail, for they no longer darted into the hive as they were doing a minute before. I went away and did not return for about half an hour. Upon my return I could not see any robbing in progress. Robber-bees still came about the hive, but every one which essayed to enter was severely and warmly received."

My goodness, gracious! is the man crazy? Well, after hearing his explanation there really seems to be some "method in his madness." He claims that contracting the entrance increases the strength of the odor at that point, the very thing which attracts robber-bees, and when he enlarged the entrance he lessened the strength of the odor, thus attracting the robber-bees. At any rate, he says it worked all right in this case, and it might in some others.

Here is a good kink that he gives by which he contracts the entrance without increasing the strength of the odor:

American Bee Journal

"If you follow the advice to close the entrance to the exit of one bee at a time, then do this way: Cover the whole entrance with wire-cloth and punch a small opening through the cloth by working a pencil through. Though this is not an infallible kink, it is nearly always successful."

A Fine February "Swarm."

EDITOR YORK:—I thought I'd write and tell you the good news. Wednesday, Feb. 5, my wife gave birth to a fine pair of twins—both girls—and I tell you we're proud of them. If you can find a February swarm that beats ours, trot it out.

My bees in the cellar are wintering splendidly. GEO. H. REA.
Reynoldsville, Pa., Feb. 8.

[We referred the foregoing to Miss Wilson, as we felt that it properly belonged in the "Sisters" department. Here is her comment.—EDITOR]:

Two young queens in one hive! Let us hope they will get along more peacefully than young queens generally do together; and that you may be able to summer and winter them successfully many years.

Perhaps Queenless and Being Robbed.

I have 10 colonies. Last fall I bought an extra colony and the rest of my bees are determined to rob that new one. I think it is weaker than the rest. Every warm day the yard is in a perfect uproar. I have shut up the hive a number of times, then they try another hive. Is there any thing I can do to prevent robbing? I fear when warm days come they will rob the whole yard. I thought when winter set in that would end the trouble, but no such thing. Every warm day they are at it again.

(MISS) SARAH AUCHMOODY.
Highlands, N. Y., Route 4.

Are you sure your new colony has a queen? Bees are much more likely to attack a queenless colony. If queenless, it might be worth while to unite it with one of your other colonies, but usually a queenless colony that will not defend itself is not worth fussing with.

If it has its queen all right, try putting an armful of hay or straw over the entrance. Pile it up as high as the hive in front and at the two sides, but don't pack down too close.

That will allow the bees belonging to the colony to pass in and out, and give them a much better chance to defend themselves; and at the same time it will look to the robber-bees more like a pile of hay in which they are not interested.

Prevention of Foul Brood.

At the Ontario convention, Miss Trewarrow read a paper on foul brood. She frankly admitted that she had had no practical experience with the disease, so one might question her qualification for writing on such a theme, but her paper shows that she is by no means an ignoramus on the subject.

If it be true that "an ounce of pre-

vention is better than a pound of cure," then it is well to know the means she has used to avoid acquaintance with such an unwelcome guest.

The gist of her means of prevention is given in the following paragraph taken from the Canadian Bee Journal:

"I have been keeping bees for years, and in that time my apiary has been examined 4 times by foul-brood experts, although the inspector has visited it only once in an official capacity. These years have given me 4 rules for the avoidance of foul brood. They are: To keep the hives clean, by renewal of foundation; to feed only pure white sugar syrup; to keep the colonies strong, and open to inspection. 'Easy rules,' some will say; but sometimes one is very loath to destroy a well-formed comb, when blackness and old age are its only apparent faults, and there is quite a temptation to see what a weak colony will do through the summer, rather than reduce the size of the apiary; and who would not hesitate a little at the thought of feeding all pure sugar, with a stock of low-price honey on hand that might be used if there were no danger of contagion, while a visit from the Foul Brood Inspector would inspire as much antagonism with some bee-keepers as is evinced towards inspectors generally."

Double-Wall Hives—Increase, Etc.

I am a beginner. I bought 2 swarms last June. The bees did not gather enough honey for winter supply. I fed them \$2.00 worth of sugar. I keep them outdoors in Telescope hives. Is it necessary to use the double-wall hive in this locality?

How many swarms could I expect to get from the 2 next summer? I would not care to buy any more hives than I need until I know I can make the bees pay.

Is it necessary to get 2 supers with each hive?

Last September the bees in one of my hives threw out the young bees when they were just about ready to leave their cells.

I noticed that one of the young bees had a crippled wing. Could it be that the whole brood was deformed? Would you advise me to get another queen?

The comb foundation dropped out of

one frame and the bees built the comb into this from the next frame. Shall I cut out the comb and give them new starters? (MISS) FRIEDA KLEIN.

Kansas City, Mo.

Double-walled hives are not necessary; but unless your bees are in a place well sheltered by surrounding buildings or other objects, all but on the south side, you should give the hives some sort of protection, if it be nothing more than to set some corn-stalks around them.

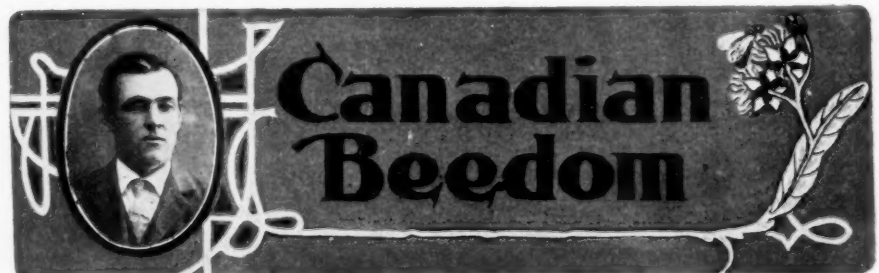
If it should be a very poor season, you might get no swarms at all. In a good season you may get 2 swarms from each colony; and in a very good season you may have more. But the safer plan is to allow no more than a single swarm from each colony, especially as you do not wish to invest too heavily in hives at the start. Any swarm after the first is likely to be rather weak, and any after the second still weaker.

You can very easily, and almost certainly, prevent any afterswarm in this way: When the prime swarm issues, set it in place of the old colony, putting the old colony close besides the swarm. A week later move the old hive 10 feet or more away to a new place. The bees will do the rest. That will give the swarm all the field-bees to gather a good lot of surplus, and the mother colony will be weakened so it will give up swarming.

If you work for extracted honey, you may get along with one super for each colony that stores surplus, although more would be better. If you work for comb honey you must have at least 2 supers for each storing colony, although more would be better.

The likelihood is that the casting out of the young bees was on account of the work of the wax-moth. It may or it may not be advisable to change the queen. If a colony is strong it will be likely to protect itself against the moth, although even quite a weak colony will do so if Italians.

Unless the comb is so that you can cut it away partly and fasten it back properly in place better cut out the crooked part entirely, and put fresh foundation in the frame at a time when bees are gathering and building, putting the frame centrally in the hive.



Conducted by J. L. BYER, Mount Joy, Ont.

An Old-Fashioned Winter.

In notes for the January American Bee Journal we commented upon the very favorable weather for bees up to

that date. Since the last week in January, however, we have been having what some call an "old-fashioned winter"—very stormy and very cold. Two

American Bee Journal

mornings the thermometer registered 25 degrees below zero, which is exceptional for our locality.

With the exception of a few colonies in the home-yard, bees seem to be standing the weather all right. These few colonies were heavy in natural stores last fall, and were fed no sugar syrup. For some cause, possibly a little honey-dew, and excess of pollen, these colonies are showing signs of dysentery quite badly.

It begins to look as if in poor seasons, when stores gathered are none too good and so much pollen is brought in, that it will be absolutely necessary to feed sugar syrup to winter the bees successfully. While there are only about half a dozen colonies affected, yet the difference between them and sugar-fed colonies is very apparent. The latter are very quiet, and to all appearance as healthy as at the beginning of the long winter.

The Divisible Brood-Chamber Hive.

Regarding the divisible brood-chamber style of hive, Mr. Smith, of Palermo, Ont., says, on page 12, that as far as he knows "there is only one man in Canada who uses the divisible brood-chamber." For Mr. Smith's benefit, I would say that at last *two* of our "big" bee-keepers—Messrs. Hoshal and Miller—use the divisible brood-chamber exclusively. Both of these gentlemen use the Heddon hive, and as they are both enthusiasts regarding the merits of said style of hive, naturally they have *almost persuaded* quite a number of bee-keepers to fall in line with their views.

Quite a number of beginners are trying these hives, and while I have had no experience with the divisible brood-chamber, yet judging by the "signs of the times," I feel to agree with Mr. Scholl, that "they are bound to become more popular in the future than they have in the past."

Mr. Scholl gives good counsel when he advises bee-keepers, no matter how well-informed, against making a radical change from the deep to the shallow hive; and, as he says, the better way is first to try a *few* and see how they are liked. As a rule, stampeding is apt to end in *disgrace*, and possibly in *disaster*. Wholesale changing of styles of hives in use without any experimenting, is no exception to the rule.

When to Supersede Queens.

C. P. Dadant's contribution on page 46, on the much-debated subject, at what age to supersede queens, forms interesting reading. No doubt J. E. Hand and a few others will think Mr. Dadant's summing up, a trifle too severe when he says that "the idea of replacing queens every year is preposterous." My limited experience would go to uphold the truth of Mr. Dadant's deductions, as I use a very large brood-nest, hence if there is anything in the theory of *working* queens to death, a large number of my queens should fail in the second year. However, such is not the case, as I find nearly all of my

queens are as good the second year as in the first.

To be sure, some of the queens fail in their *first* year to come up to what they should be, and in that case I would not expect them to be any good the second year. But generally speaking, a queen that gives good results the first year, other conditions being equal, will give equally good service the next season.

In looking over the opinions of different authorities quoted from by Mr. Dadant, I was surprised to find the age *limit* of queens given at 4 to 5 years. Last spring we had a Carniolan queen that died in her 7th year. There is no question about the reliability of this statement as sufficient data can be furnished to prove its accuracy. The queen was clipped, in fact all her wings were shorn close to her back—good evidence, by the way, that clipping does not cause superseding. For 5 years her colony was one of the best in the apiary, the 6th season they were in fair condition, and in the early part of the 7th year the queen was superseded. During the last 2 years the queen looked more like a large ant than a bee, and she was kept only as a curiosity. While as stated, the colony headed by this queen was always an extra one, strange to say the daughter reared in supersedure is no good. Which goes to show that "like does not always produce like."

Honey-Vinegar.

The same writer says in January Review that honey-vinegar will keep only a short space of time, and that this is the reason that store-keepers will not sell it. With us honey-vinegar has always kept as long as it got a chance to *keep*, and storekeepers will handle it; in fact, I knew of one merchant who sold hardly anything else in the vinegar line. We hesitate to overburden "locality," so, I will not even hazard a guess as to why honey-vinegar behaves so differently in California and Ontario.

Bee-Keepers a Clean People.

Miss Trevarrow, in the January Canadian Bee Journal, says:

"The Ontario bee-keepers take the palm for giving the least trouble and disturbing the uniform neatness of the rooms, less than any body of people that convenes at the York County Council Chambers. If you want to be sure of this, ask the caretaker; he knows."

Miss Trevarrow is right, at least the caretaker, prefacing his remarks with some very expressive qualifying adjectives told me without any *asking* that "you bee-keepers are the *cleanest* lot of people I have ever had in this hall to look after." At least three different caretakers of other public halls have made similar remarks to the writer, at former conventions of the Ontario Association.

No, it is not my purpose to resolve ourselves into a "mutual admiration society," yet such opinions are something to be proud of and should serve as an incentive to individual efforts towards

making future meetings just a *little better* than those of the past.

Editor Hurley, of the Canadian Bee Journal, speaking in egotistic terms of the progress made by the A. I. Root Co.—particularly of Gleanings—says regarding the senior editor's department of "Our Homes" in that journal:

"It is a tower of strength to Gleanings, notwithstanding the fact that much therein written all may not agree with. We are at one with him, however, on the temperance question."

Our personal acquaintance with Mr. Hurley has been only for a short time, and his views on the temperance question were not known to the writer, but say, as an editor of a bee-paper, we might have known that he was sure to be a temperance advocate!

Right along this line of thought, Dr. Miller says in Gleanings: "I wonder, now, whether a greater proportion of prohibitionists may not be found among bee-keepers than among any other class, not even excepting ministers." Whether the doctor's surmise is correct or not, it has always been a source of pleasure to number among my bee-keeping friends, so many, some not prohibitionists in the strictest sense of the word, yet the majority of whom are strict temperance men.

While the foregoing may not be strictly apicultural literature, I feel sure readers of Canadian Beedom will overlook my temerity on this occasion, particularly as we do not often transgress in this respect.

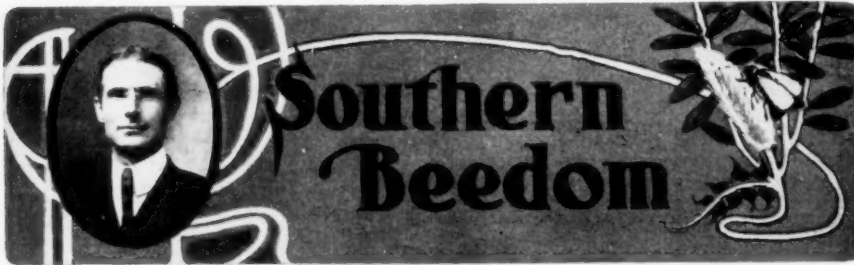
Poison Mixture for Rats and Mice.

Some time ago, Mr. Crane, in one of the bee-papers, recommended a mixture of equal parts of arsenic, flour and sugar for poisoning mice; I tried it, and at first thought it a failure as the mice did not seem to disappear very fast. However, I now believe it be a good thing, as there is not the sign of a rat or mouse in my three yards and buildings.

The mixture seems to be slow in its action, or, in other words, the vermin are not particularly fond of it, but ultimately they all nibble enough to "fix" them.

While I have never had much trouble with mice, the lack has more than been made up by destructive red squirrels. An account was given in these columns some time ago as to how these little rodents peeled all the paper from the inside of a honey-house and wrought other destruction as well. This year again, a lot of trouble was done at the same apiary before all the squirrels, about 20 in all, were destroyed. A large number of walnut trees near the yard is the drawing card, and after the nuts are all gone, the honey-house and hives offer convenient harboring places. ~~so~~ sheer destructiveness I know of nothing to equal these little rascals, and if a pile of supers was clear on all sides, Mr. Squirrel would disdain to walk around, and proceed to chisel a hole right through the center. I have not so far been able to poison them, so I have had to resort to the gun and traps.

American Bee Journal



Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

A Warm Winter in Texas—Other Subjects.

Bees were very busy gathering pollen from mistletoe, cedar, and a very small blue flower that comes up and blooms in January and February. Water elms, wild currant, and "elbow"-bush are just coming into bloom. The last two furnish a good supply of honey as well as pollen when the weather is favorable. Unfortunately, though, for both the bees and their keeper, the weather is seldom favorable for best results during their bloom. This is all in January.

CAUSE OF RAPID CONSUMPTION OF STORES.

I don't think it is the frequent flights the bees have here these very warm winters we often have in this State that cause them to use up their stores faster than they do during cold winters, as much as it is the amount of brood reared. I opened a hive on Jan. 15, with a vigorous young queen, that had brood in 3 frames. They had all the way from the eggs to hatching brood, and their stores were disappearing in a hurry, too.

THAT "MARIGOLD" HONEY.

I am satisfied now, Editor Scholl, that the bee-keeper mentioned by me as having to give up bee-keeping in his locality on account of his bees gathering honey from wild "marigold" (pages 11 and 12) was not what is known to bee-keepers as the wild "marigold" at all, but his bees gathered the strong, bad-flavored honey he had in mind from a yellow flower that grows all up and down the rivers and creeks of this locality. I don't know any name for the flower, but it certainly does furnish a very disagreeable flavored honey. It blooms in March and April, and some few years yields honey very plentifully. I moved most of my bees away from this place, mostly on account of this bloom, and the so-called "honey-dew." If I am unfortunate enough to get some of this honey the present year (I consider it a real misfortune to befall a bee-keeper) I am going to mail you a sample. I'll not expect to have to fill many carload orders, though, for you.

TIME FOR SPRING EXAMINATION.

You are right, Mr. Scholl, in saying, "A round to all the apiaries should be made in early spring. The colonies should be examined for stores, queenlessness, etc."—page 86, in *Gleanings* for January 15. Would you mind telling us about the proper date you think best to make these examinations? My bees are all busy gathering pollen now, as stated elsewhere, and all that are

"queen-right" will soon have brood in several frames. Yet I should hate to open the hives at this date, breaking the glue loose where the bees have all sealed up warm and snug, unless I knew it was absolutely necessary, for you know we often have some of our coldest weather in February in Texas.

"HUNTING BEES IN TEXAS (2)"

Wasn't that a misprint at the heading of that article written by Elias Fox, of Wisconsin, headed, "Hunting Bees in Texas," page 20? Anyway it is very interesting to me, as bee-hunting is a hobby of mine, and his way of hunting and saving the bees is so nearly like mine that it made it the more interesting to me. Like Mr. Fox, too, I don't hunt bees for the dollars and cents there are in it, for, as a rule, bee-hunting is not profitable. Yet I have spent my happiest days in the woods, all alone, bee-hunting, and have found and cut many hundred bee-trees. This may sound "fishy," but I seriously doubt there being a man living to-day who has found and cut more bee-trees than I have.

Rescue, Tex.

L. B. SMITH.

There you are again, Mr. Smith, a-teasing me with some honey-plants for which you know no name. Of course I am not blaming you, because not everybody can be a botanist, although that is a valuable "addition" to mix with bee-keeping.

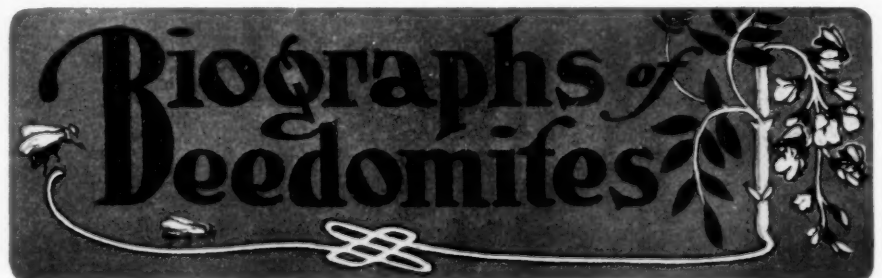
There is a way of finding names for these honey-yielders, however; either your humble servant can tell you them, or he can get somebody else to do it. I am very much interested in all the honey-yielders of Texas.

I should be glad to receive specimens of all the honey and pollen yielding plants of our State, for my collection. My herbarium now comprises a great number of such, but I am well aware that there are hundreds more of Texas honey-yielding plants that I have not yet had.

In many cases it will be possible for me to give the sender of specimens the proper names of such plants, and also their general distribution. If any of our Texas readers see this, and have the time to do so, I would be glad to have them bear this request in mind. When bees are on the flowers—especially such with which you are not acquainted—gather two or more fair-sized specimens, being sure to get flowers, and enough of the plant and leaves, and seeds, if possible, so they can be identified. Before mailing them press them between several thicknesses of newspapers for several days, being sure to change them with dry ones every evening, or the specimens will mold. As soon as they are several days old, they can be laid in single layers of newspapers, the whole laid between two pieces of cardboard, about 8 by 12 inches, then wrapped for mailing. A bulletin on "Texas Honey-Yielding Plants," will be gotten out in the near future, and I will see that you get a copy.

That "round" to the apiaries in early spring should be made as soon as warm weather allows it in January or February. In March, when we have a cold winter. With me it's mostly in January or February, when the bees are flying; then it is an easy matter to examine them. All the colonies that are flying in full force, and bringing in pollen, honey and water, are all right.

To find out about their stores, simply "heft" a few hives here and there. All hives that have no bees or very few flying, need only be opened, and it's necessary to do this as they need our attention, so it matters not about breaking the glued joints. I can tell in a little while the condition of my bees, by just wandering through the apiary, looking at the entrances of the hives, and "hefting" some of them. Those that are not "queen-right" are simply set on top of another colony until later.



EDWIN FRANCE.

On February 7, 1908, in Platteville, Wis., at the age of 84 years, the subject of this sketch passed away. He was born Feb. 4, 1824. At the death of his father the support of a large family fell upon him, and he faithfully cared for them until the age of 32, when he settled on a 200-acre homestead in Iowa.

July 23, 1856, he married Harriet Wilson. For 6 years he tilled the soil in Iowa, and during the winter trapped for furs. While in Iowa his only child, N. E. France, was born.

In 1862, he moved by ox-team to Platteville, Wis., being 2 weeks on the way. Here he sold patented bee-hives, sewing machines, and still followed trap-

American Bee Journal

ping for furs in the winter. Thirty-eight years ago he bought the place where he has lived ever since, clearing off the heavy timber and building the house with lumber hauled by team from Galena, Ill. He and his son engaged in market gardening, small fruit-growing, and bee-keeping. He purchased the first honey-extractor shipped into Wisconsin, then increased the size of his apiary so that from 395 colonies of bees in 1886, he took 42,489 pounds of honey, besides increasing them to 507 colonies. Several poor seasons followed, but each year he obtained some honey. He and his son did all the work except for a few days during the honey season when some help was hired. He never allowed his hired help to use profanity or indulge in intemperance.

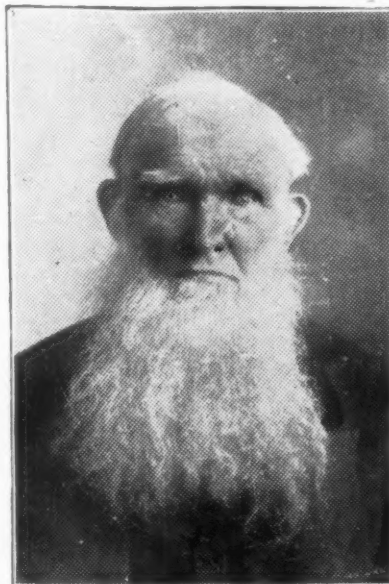
While living in New York State, for several years, Mr. France was leader of the Methodist Church choir, often using his violin, but in his later years, owing to defective hearing, he did not attend public gatherings.

July 23, 1907, Mr. and Mrs. France celebrated their golden wedding. October 9, 1907, he fell from a wagon, seriously injuring himself, from which his death resulted later.

He leaves a widow and son, N. E. France, so well known to all bee-keepers as the General Manager of the National Bee-Keepers' Association.

The death of Mr. France removes one of the greatest naturalists in Wisconsin. He was one of the best-informed men on the habits of animals, especially those that inhabited this country in the early days. He did not class himself as a scholar, but his knowledge of animal and bird life was gained through personal experience, and he derived his greatest pleasure from their study. He would often tell of his early experience when on trapping expeditions, which

were often full of danger not only from wild animals which he hunted, but from the Indians that often camped on his trail. It was only during the past few years that he has given up his annual outing on the Mississippi River, where



EDWIN FRANCE.

he enjoyed the outdoor life of earlier days.

Mr. France never wrote very much for the apian press, but what he did write always bore the marks of ripe experience.

At Mr. France's funeral all the pallbearers were former helpers in his apiary.

are all ready for wintering in the best possible shape. And that this may be so you will commence this knowledge in *September*, not put it off till November or December, as so many are prone to do, and then write Dr. Miller, Alexander, Root or Doolittle how the bees can be fed in cold weather, because you have just found out that some of your colonies are weak in numbers, and many of them short in stores; giving as an excuse for such a state of affairs, that you went off hunting, or fishing, or on some pleasure excursion when you ought to have been attending to the bees.

Having the bees all in "apple pie" shape for wintering, the next thing is to expect that nine-tenths of the number of colonies you have in September will come out strong enough to do successful work in the harvest of the next year, and go about your preparations accordingly. If you have not hives enough, in good shape, repair the old ones and make new till you do have. Then prepare surplus frames filled with foundation, if you do not have combs enough, to meet the wants of those colonies and hives, allowing room enough, if you are working for extracted honey, for the storing of 200 pounds of surplus to each colony; and 150 for each colony worked for section honey, making and preparing your supers and sections during the winter months.

Don't be "side-tracked" by the one who tells you to wait about putting the foundation into the frames and sections till just before the harvest, because the bees take more kindly to fresh-made foundation than they do to that which has been made longer and gotten old and hard, for such talk is a myth; and, besides that, if you are to be a success in apiculture, you will have all your time fully occupied just before the harvest with things more profitable than putting foundation into frames and sections. Thus you will keep on till everything you need for work in the apiary is all in perfect readiness by the time spring comes. If you get this work done a little before this, then go over the books and papers you have on bees, and finish "posting up" on these, wherein you have failed to do so, during the long winter evenings. Then if you have any new plans or experiments you expect to conduct the coming season (and if you are a live bee-keeper, you will have more of these than you can properly look after each year), lay out these plans by pencil sketches or wooden models, so that you will have all "at your finger-tips" when the time comes for proving them of value or worthless.

Don't let any one dissuade you from trying any plan you may wish to conduct by telling you that "we old heads" have things all worked out regarding hives, etc., so it will be better for you to take "the beaten path," for, even though you may not bring out something which will "revolutionize" the world, your planning and working out those plans will "rivet" you to the pursuit you have chosen, enlarge your views, and teach you very much more of apiculture than could possibly come by keeping each step of "your feet"



Preparing for the Honey Harvest

BY G. M. DOOLITTLE.

A correspondent writes, asking when he should prepare for the honey harvest, saying if he goes about this during the winter, all of his bees, or a part of them, may die, and, if so, he will not need all or any of the preparation he has made. I often get such letters, and when I received this one, some way I felt like "speaking my mind" on this subject right out in print where more than just one person could hear what I was saying.

This putting off preparing for the honey harvest, is one of the hidden rocks on which many a would-be bee-

keeper's "vessel" has been run, and gone to ruin. The question is not, *Are the bees going to live?* but, *Am I going to make a bee-keeper?* If I am going to make a bee-keeper, I must have bees; and if those I now have die, I will get more. Therefore, I am going to leave no stone unturned to make a success in this undertaking; and if a success is to be made I am always to be prepared for the harvest when it comes. And always to be prepared means to know what I want, and as fast as possible have everything in readiness as long before the harvest comes as it is possible for me to do. In other words, I will commence preparing for the next harvest as soon as the last one is over.

The first preparation after the honey harvest is over, is to *know* that the bees

in the footprints of some one else who has passed on before.

Having everything in readiness, as soon as spring opens, begin learning anything about your locality with which you are not perfectly familiar. In nearly all localities where bees can be kept, there are certain plants and trees which give a yield of surplus pollen or honey, or both, and this yield comes at certain times during the year, while aside from this there is little more honey obtained by the bees than is needed to supply their daily wants. Some localities give a slow surplus during the larger part of the summer, but these are exceptional. The majority of localities give a surplus at one, two or three stated periods.

In any locality where there is a surplus only at one stated period, it will be apparent to all that if such a surplus yield passes by without any surplus, none can be obtained during the season. Where there are two periods of surplus, there is still a chance for some surplus from the second, should we fail in the first; and with three surplus periods, our chances are still better than with only two. But if the apiarist knows nothing when the time of surplus comes, he will be working "blindfold" in these matters, only so far as the bees will naturally prepare for them themselves. But in order to be a successful apiarist, a person must not only have a full knowledge of his locality as to its honey-producing flora, but must also so help his bees that the maximum number of individuals will be on the stage of action at the time of the greatest yield of nectar from his fields. Failing to do this, very much of the profit which might be secured is lost, and our would-be apiarist becomes discouraged, and often gives up; while, had he studied and *known*, so as to have brought his greatest number of laborers on the stage of action just when his location gave its greatest yield of nectar, his profit and success would have made him an enthusiast, almost without equal.

For years I started out with the bees when the first pollen came in, following them till I knew where they obtained it, and so on, till that which came in last in the fall; till I knew every source from which they obtained that part which is needed to fill the hives with brood. Then with the first honey I started out in the same way, and so on down to the last from the fall flowers. In this way I found that the only flowers on which I could rely for a surplus of honey were—first, white clover; second, basswood; third, buckwheat. If from any reason the white clover was winter-killed, I did not put forth an extra effort for an early strength of colonies, but concentrated all effort so that they might be at their best for the basswood, and if a late frost killed the basswood buds when they were very small, the latter part of May, then I looked forward so as to be prepared for the buckwheat.

But, bear in mind, that it is *your* locality that *you* are to *know*, in order that *you* may make a success; and by having everything in readiness along the supply line during the winter months, when spring opens you are not hindered

from *knowing* these matters, as would be the case where you waited till spring (to know how the bees came out) before you did any of the preparation for the season's crop.

Borodino, N. Y.

Removing Sections from Wide Frames—Filling Sections With Comb Foundation

BY J. E. HAND.

I notice on page 754, an inquiry about how to get sections of honey out of frames having a top-bar. I believe the question was not answered.

The advantages of the frame over the section-holder is in a better protection of the sections. It also admits of reversing to get the combs attached to the wood at the bottom of the sections, and takes the place of a bottom strip of foundation. It also admits of extracting partly-filled sections 4 at a time.

To remove honey when finished, run a thin-bladed knife along the crack between the sections and frame, and push the frame down over a form, leaving the 4 sections of honey upon the form.

To fill the frames with sections, and the sections with foundation, at one operation, split the sections with a saw $\frac{3}{4}$ their length exactly in the center before folding. Place the frame over a form $\frac{3}{8}$ -inch thick. Put the folded sections in the frame and upon the form with the unsplit side at the bottom of the frame. This leaves the sections half way out of frame and exposes the opening. Pass a thin, narrow strip of wood 20 inches long down through the center of the 4 sections until it strikes the bottom, which opens up the 4 sections to receive a continuous sheet of comb foundation $4\frac{1}{8} \times 17\frac{1}{8}$ inches, and which is dropped into the opening, and rests upon the narrow strip of wood which is removed endwise; and by giving the frame a tap on the bench, the foundation drops into place, and the sections are pushed into position in the frame. You may throw the frames upon the floor, or handle them as roughly as you please, but the foundation is there to stay.

One can have but little idea of the rapidity of the operation, or the results gained, by having sections filled solid full of foundation without a crack anywhere, until he gives this system a trial.

Birmingham, Ohio.

Honey and the Pure Food Law

BY DR. G. BOHRER.

For years the ready sale of honey, at remunerative prices, has been a question, among actual producers of actual honey, of more than ordinary importance. The blenders of glucose and honey have placed such an immense amount of their adulterated goods upon the market in attractive packages, and under the label of pure honey, of which

the public became aware, so that many people who would gladly have been purchasers and consumers of pure honey would not buy anything called honey, through fear of purchasing adulterated goods. Especially was this the case regarding extracted honey. Yet comb honey was held in the background to an extent, the belief being entertained by a considerable number of people that honey-comb was manufactured by machinery, filled with counterfeit honey, and sealed artificially; all of which, it was said, was such a perfect imitation of the work of honey-bees that the difference couldn't be detected. In fact, this adulteration was carried on to such an extent that almost all, if not all, manufacturers of all the different syrups and candies became extensive users of glucose in their factories, the result being that scarcely a syrup free from this vile stuff could be found in the market. I have called glucose "vile," for the reason that both my experience and observation have led me to believe that the less of it there is used as a human food, the better off mankind will be in health.

To offset all this, bee-keepers sought relief through advertising pure extracted honey by reliable parties, the labels on the packages bearing the name of the producer. And the production of artificial honey-comb was also denied, the reply to which usually was, "You're another." Pure honey could be sold by producers to those who knew them to be reliable, quite readily. But beyond the limit of their acquaintance slow sale was the rule.

An organization was effected, and quite a sum of money was raised by the members, with the object in view of increasing the sale of honey. But it did not prove satisfactory, and the funds in the treasury, if my information is correct, were turned over to the National Bee-Keepers' Association, and is a part of the funds of their treasury.

About this time our National Congress enacted a pure food law, and most of our States, I think, have done likewise, and, as far as the writer knows, honey has been protected by the pure food laws, either State or National, or by both. And while it is claimed by some that goods not actual honey are sold as honey, under adroitly drawn and evasive labels, I feel fully convinced that it is a mistake. If not, then it is being done by a grossly uninformed person, and parties interested have not turned a sample package of it over to an analytical chemist to be tested. Let this be done, and if the package is found to be spurious, the authorities will, if it is brought to their notice, handle the offenders without gloves. And if any one, whether a bee-keeper, a honey-dealer, or any one, fail to report anything of the kind and at the same time fail to notify the proper authorities of such misdemeanor, he is not doing his duty to himself nor his fellow-men. Let the strict enforcement of the pure food law be the watchword of all interested in the production, sale and consumption of pure honey, and, my word for it, honey in either the comb or extracted form will not go begging for buyers at reasonable prices.

Lyons, Kans.

Exhibiting and Selling Granulated Honey

BY C. P. DADANT.

I read on page 6, an editorial reproducing a letter from Dr. F. D. Clum, concerning the desirability of exhibiting granulated honey at fairs. I believe this matter needs to be insisted upon among bee-keepers.

The sale of granulated honey of the very best quality has been customary in Europe for centuries. Very little comb honey has been sold there at any time, but they have long ago found out that the best honey when taken from the combs granulates almost without exception at the opening of cool weather. It is held by many people that the granulated honey is more easily digested than the liquid, and that the exposure to the air, which is mostly responsible for the granulation, also removes most of the tendency of fresh honey to sicken some stomachs. Be this as it may, there is no doubt that the granulation or candying in regular granules is a very good proof, not only of the honey being ripe, but also of its being pure. The elder Dadant was most emphatic upon this matter, and had prepared a label, as early as the seventies, to put upon our packages, and which reads as follows:

"The granulation of honey is the best proof of purity. We guarantee that our honey will granulate if kept at a temperature not to exceed 70 degrees. We will pay one hundred dollars to any one proving, after analysis, that our honey is not strictly pure." After a few years, we found that the words "candy" and "candying" would appeal to more people, so we changed from "granulated" to "candied," which means the same to every one, but was more intelligible to the mass of people. This label was kept on all our honey and is still in use by us. The result is that we have created a demand for extracted granulated honey. But we are almost alone in this. The bee-keepers who insist on selling and guaranteeing granulated honey are very much scattered, and their efforts are lost in the mass of dealers in liquid honey.

Why is it that granulated honey has ready sale, and is accepted in Europe, while it is generally unknown here among the people? I believe the answer is in the original conditions of bee-culture, in America. The woods of our wild country were very quickly filled with bee-trees, and a goodly portion of the honey harvested by the early settlers was taken from such sources. All those who have been "bee-hunters" know how badly smashed the combs were by the fall of the tree, and how much the honey was mixed with rotten wood, pollen, brood, etc. So the honey was strained and heated to purify it. Hence, the liquid "strained honey," against whose reputation our fine extracted honey had to compete.

No one knew anything about "granulation," outside of the bee-keepers. But it is really a pity to be compelled to acknowledge that our bee-keepers are left almost alone in knowing that good honey will invariably granulate, if it is

ripe enough. I say, "invariably," although there are occasional instances when very good honey fails to granulate, and L. C. Root (Quinby's son-in-law) once in my hearing, at a bee-keepers' convention, advanced the assertion that very ripe honey would not granulate. He had a very fine sample of liquid basswood honey which remained clear, but for one such sample, our friends can show tens of thousands which granulate thoroughly. Why, then, shall we continue to keep the people in ignorance of the true nature of honey, by exhibiting and selling only liquid honey, which we are at great pains to keep in that condition?

Some of our best bee-keepers plainly say that they cannot sell granulated extracted honey. To this statement I object. It is true that liquid honey is more easily sold. But when you sell extracted liquid honey, and it granulates on the hands of your customer, if he does not know anything about granulation he will at once suspect you of dishonesty. If he does not have occasion to complain to you, he will nevertheless complain, and will not hesitate to tell everyone that you cheated him, and sold him some stuff that you called honey, but which all "went to sugar." You then have a much more difficult case to deal with than if you had sold him the granulated honey in the first place, and had told him how to liquefy it.

I am quite free to agree that granulated honey does not look as pretty as liquid honey, and that it makes a poor exhibit in a glass bottle. Yet, after the knowledge that all consumers have of the beauty of glucose or so-called "corn-syrup," why should we desire to retain that appearance in our honey? When a person buys honey, he should not be after the looks, but after the taste. If looks only are to be relied on, in our food, then oysters are to be discarded, for I don't know of any dish that looks worse than a saucer full of oysters!

Our editor speaks of Illinois as encouraging the display of extracted honey. Yes, and it was after years of repeated battling, with the help of such writers as Mrs. Harrison and others, that our bee-keepers finally succeeded in having a special premium for granulated honey at the Illinois State Fair.

Bee-keepers are in the market with their honey, to stay. Their honey will continue to granulate from year to year, and this will continue to be a very good test of purity. Then why not all work steadily to educate the people, so they may recognize the value of our goods, when presented to them in a natural condition? As long as we will try to avoid the sale of granulated honey, there will be a prejudice against it, and every now and then a bee-keeper will be taken to task for an imaginary fault and defect, which, far from being a fault, is a quality. For there is no end to the slurs cast upon an article which the consumer does not understand. Absurd things are said, foolish things are done, by people who only need to be informed. "Your honey is not good," said a new customer one day; "it all

turned to sugar. I put water in it to liquefy it, but it won't melt!"

Bee-keepers, the education of the people, as to the purity of honey depends upon your efforts. Then do not allow the delusion to continue by continuing to liquefy the honey before offering it for sale. Try at least to inform your customers as to the value of granulated honey, so that if they buy the liquid product they will not be astonished to see it "turn to sugar."

I want to give a bit of information to beginners who may have produced honey which granulated in an irregular way. I have just lately received an enquiry from a bee-keeper who says that some of his honey has granulated in a way that makes it look like cream that had flour in it. Then, sometimes, honey will granulate in lumps, with a certain amount of thinner honey surrounding these lumps. In these instances the honey is not thoroughly ripened. The best thing to do is to melt the honey slowly without heating it sufficiently to damage it, and let it be exposed to cold again when liquefied. It will be very much slower to granulate, but will then granulate properly without lumps. At least this has been my experience with all such instances. But it is very much the best to have your honey thoroughly ripened when harvested, for it will then make a very even and fine grain.

We can not too strenuously condemn the practice of harvesting and offering for sale unripe honey.

Hamilton, Ill.

Bee-Territory and Legislation

BY C. C. MILLER.

I have read with very great interest what Prof. Cook says on page 16, under the heading "Over-Stocking." Prof. Cook, my old friend (that "old" has no reference to the years of your life, but to the years of our friendship), I'd give a good bit to sit down with you and have an old-fashioned talk all about it.

You say, "If we knew . . . then we would be warranted in demanding some legislation that would * * * protect the bee-keeper." Thanks for conceding the possibility of legislation, even with the attachment of the "if." Oh, you're growing. Before making that concession, however, you hint that most localities are not stocked up to their full capacity.

Putting both things into one sentence, if I understand you correctly, your position is this: "If we knew that too colonies would properly occupy a certain location, and if you had too colonies on the ground, then you might with reason ask legal protection."

Now in all fairness, Professor, will you tell me what either of those things has to do with the case in hand? Did you ever hear of such questions being asked as to occupying territory for any other purpose, whether for corn, wheat, cattle, buildings, or anything else? Before a man obtained possession of a certain piece of land on which to raise cattle, was it first decided that just so many head of cattle could be supported

American Bee Journal

on so many acres of ground? and did he have to show so many cattle before he could have so much land? Was it? and did he?

Now I want to ask you a question, and I hope you'll answer it in the first number you can: Why am I not entitled to legal protection in my territory now, just as much as I would be under the conditions you mention?

To save space I may as well answer a point that you—no, I don't believe you would make it, but some one else may make it. It is that I have no right to any territory, for I haven't paid for it. No, I haven't, but I'm ready to pay the government for it, just as the man was ready to pay for territory for his cattle.

More and more the feeling seems to be growing that it would be a good thing for the general good that men should make a specialty of bee-keeping. I think you will agree with me that to encourage a man to do that, he should feel there is some sort of stability about it.

Now suppose a man settles down in a given locality, investing whatever money may be necessary, starting with 50 colonies of bees. He says to you, "A man was here today who talks of coming and planting another apiary close beside mine. It will be a heavy blow to me, for I counted on making a living with my bees. If he comes it will knock me out."

You say to him, "But your 50 colonies can not begin to occupy that field." "Of course not," he says, "but I expect to build up as fast as I can until I have all the locality will support." You reply, "But you're not certain just how many it will support, and until you do he has a perfect right to plant as many as he likes, even if it be at a loss to both of you." No, I can hardly imagine your making such an answer. Take the floor, Professor.

Marengo, Ill.

Extension Work in Agriculture

BY PROF. A. J. COOK.

This is what our Government, State and National, is doing for us with an energy that may well attract and receive thorough appreciation and deserving praise at home, as it is receiving from all the civilized nations of the world. Our Department of Agriculture is surprisingly alive, and under our efficient Secretary Wilson is doing a mighty work for the farmer, and, in helping the farmer, it helps all of us. The Stations are not far behind in this great field of research. Now the work is so well organized and unified that the eye of the Government Department is over and on all, and the various States are cognizant of what each is doing, and so all are spurred constantly to their best. This is making each State and the nation alive to the supreme importance of securing better—the best—men, and this search and its success is giving us a magnificent corps of workers. As yet there are not enough of this kind to go around, and so we are not getting in all places as good work

as we will very soon. Young men will see the great chance to fit themselves for work that is most fascinating, and is, at the same time, big with benefit to the world, and so the best talent will be won to this valuable research work. The bee-keepers are remiss in this matter, as each of us should demand that our Agricultural Colleges and our Experiment Stations should be as well equipped in bee-keeping lines as in other lines of Agricultural development, and soon we would have more men attracted to this field, to the advantage of us all.

A LIBERAL EDUCATION.

To be educated, one does not need to go to college or university. Greeley never was in either, and he was well educated. To-day any of us who will thoroughly study our best station bulletins, will find that he is soon well informed in almost all lines of science and practice, and will soon feel that he is broadly trained and will feel more competent to do his special work in the best fashion. I am sure that the bee-keeper and all others would greatly profit, if they would procure the bulletins from all the stations, and thoroughly study them all. This will not only give the best that is known in our special line of work, but will make us conversant with all that is doing in kindred lines, and we will be surprised at the advantage that we shall gain from this broader range of thought and vision. The man, no matter what his special line of work, who will thoroughly study the bulletins that are being sent out by our several stations, and the Government, will soon be well-informed in the very best departments of knowledge, and with the added reading, which will soon follow as a sure result, will become broadly educated, and become a power in his county and State.

A VALUABLE BULLETIN.

Bulletin No. 75, of the Department of Agriculture, is specially worthy of study by all bee-keepers. It is a full discussion of the methods to be adopted in working for extracted honey. Dr. E. F. Phillips is thorough in his work, and is conservative, and so if he errs he will not be likely to mislead. He also is very wise in a happy mingling of the scientific with the practical, so he will constantly broaden our outlook, while he at the same time gives us the best that is known in methods and practice. This bulletin is a sort of compilation of what is being practiced by our best bee-keepers.

It is a fact that it will pay the most bee-keepers to produce, mainly, extracted honey. Success is easier, the results more certain, and in case the bee-keeper is as far from market as we are on the Pacific Coast, then the matter of marketing and shipment are both on the side of the extracted honey.

WELL-RIPENED HONEY.

This is a matter so exceedingly important, that no one can afford to disregard it in the least. I know, as does every other bee-keeper of wide experience, that honey can be ripened outside the hive and lose none of its excellence

and flavor. This can only be true where the warm, equable temperature of the hive is maintained. We know that digestion of the nectar is not completed till long after the same is placed in the cells of the comb. For this reduction to be complete, the conditions of the hive must be secured, else the change is incomplete and the product is not as good. We must remember, then, that two things are requisite in the ripening process—one, the reduction of the water content down to 18 or 20 percent, and also to complete the work of digestion. The latter is as important as the former. The fact that the conditions are sure in the hive, and not at all sure outside, makes it wise, and the only wise course, to extract only after the honey is fully ripened. To be sure, it saves some labor to extract just as soon as the bees commence to cap the honey, but the danger that we may not if we follow this practice secure the very best article of honey, which should always be the aim of our methods and practice, makes me advise all to leave the honey till all is capped.

RELIQUEFYING GRANULATED HONEY.

I think that Dr. Phillips has not emphasized the importance of this matter any too much. I do not think that direct heat is to be avoided, however, if applied in the best way. In case we use the method advised, we are quite likely to get the water too hot and injure the flavor of our product. I believe that our market for extracted honey has been almost as much injured by putting into the sales rooms an article where the flavor has been injured by too much heat, as in any way. Without doubt the very best way to reduce the honey is to subject it to a warm temperature, say of 100 degrees, or a little more or less, and let it liquefy slowly. This takes time, but it will give us a product that is no whit inferior to honey that has never crystallized at all. And if it pays always to produce the best, can we not afford to take the trouble?

Again, if draining off the levulose and melting the dextrose, gives us a superior article (and I have never eaten any that was so fine), I see no objection to doing it. Of course this is not honey, nor is cream milk; yet we shall continue taking cream at our house. Of course, this is of no practical importance as it will never be done to any extent, but to secure a little superior honey for one's own use, it is entirely proper, and in no way wrong, at least so it seems to me.

I hope all our readers will get this valuable bulletin and thoroughly study it. Claremont, Calif.

Apiarian Rights of Priority Questioned

BY N. P. ANDERSON.

Some time ago, Editor E. R. Root, in *Gleanings*, wrote a considerable article in behalf of the rights of priority, strongly defending same, and even going so far as to say that it would be a desirable thing to have the government

American Bee Journal

take charge of the nectar, as something separate from the land, and lease or license to one man a certain amount of territory adjoining his apiary, which would prevent any one from locating an apiary within several miles of him, and guarantee him the exclusive pasturage of his locality. All the great lights of beekeeping that expressed themselves on the question at all, such as Dr. Miller, Mr. Hasty, etc., shouted with one accord, "Amen! Speed the day!" Well, I have been waiting ever since for some one to say a few words on the other side of the question, but in vain, so I am going to tackle it myself, even though I may bring a swarm of hybrids (Americans) around my ears, in a way that will "send me to cover" in double-quick time.

First, why should a bee-keeper enjoy special privileges which are not extended to other people in equal and legitimate business enterprises? Why should not the merchant who first settles in a village, investing thousands of dollars where the bee-keeper invests hundreds, be likewise protected against competition? Certainly every argument that can be offered in favor of protecting the bee-keeper applies equally well to the merchant; each, if true to his business, will have his all invested; each will be honored and respected, the merchants generally being leaders in all things of importance in their localities, more so than the bee-keepers, and, as we are all human, it is pleasing to any ambitious person to feel that he is considered "somebody" in his community; and as each is likely to remain indefinitely before competition appears, they are likely to form the same ties socially through friendship, relationship, and otherwise. The parallel is complete, and I will only show why the bee-keeper should not have a monopoly on his locality.

First, I believe that but few people would put forth their best efforts if it were not for competition. This tends to make a better bee-keeper with competition than without.

Second, the nectar is gathered over a large area, and as but few bee-keepers are extensive land-owners, their bees roaming at their sweet will wherever there is nectar to be found, nearly all of it is gathered on other people's land. It certainly ought to be regarded as a free product—free to any man who wishes to keep bees to gather it.

Third, competition is the one thing that upholds the law of "the survival of the fittest," and to this we can attribute nearly all progress made in apiculture. If priority should hold the pasturage of a locality, than the farmer with his 25 or 50 boxes of bees (some of them rotten with foul brood, etc.) getting little or no honey, would hold and prevent any up-to-date and progressive bee-keeper from coming in and establishing a profitable business in a perhaps really good locality. With competition when the up-to-date bee-man moves in, Mr. Farmer will soon find out that he is behind in his methods, that he must get rid of his box-hives and his sulphur pit, and take a bee-paper or two, or get out of the business.

Fourth, the right of priority as we have it at present, is all the protection any up-to-date bee-keeper needs, and of course no others ought to be protected. If he is at all up to the times, he will know his honey-flows and be prepared for them. He will have years of experience. He will know of weather conditions as pertaining to apiculture, and will keep at all times all the bees his locality will support, one year with another. And above all things, he will tell about his failures as well as his successes. This last item alone will, I think, eliminate 50 per cent of your prospective competition, and if you live up to Rule 4, the other 50 percent will not continue in the business long enough to become dangerous. If you do find a fellow who is going to stick to it, he will know that it is to his advantage to seek another locality rather than "buck" the old-timer.

If any of your neighbors should con-

tract the bee-fever to such an extent that they are just bound to try their hand at it, don't be afraid to sell him some bees if you can spare them, at the same time also telling him that it takes years of study to be a successful bee-keeper, and that you are keeping all the bees the pasturage will allow profitably. If he still persists, and won't believe you, let him have the bees, and by the time he uses a small stone quarry to keep his supers from blowing away, and if you let him get his "pointers" from the rear end of the bees, and not from you, for a year or two, he will think you told the truth, and he will be cured to stay cured, and will sell you his outfit at your own price.

Now, if Dr. Miller or Mr. Hasty, lose their localities (which I hope may never happen)—well, they needn't come to me for sympathy.

Minneapolis, Minn., Dec. 18.



Siftings from a New York Bee-Keepers' Institute

BY F. GREINER.

It was a happy thought for the two societies of Ontario and Seneca to have a joint meeting at Canandaigua, N. Y., Dec. 10 and 11, 1907. While the attendance from Seneca was not great it brought over the best timber—certainly an advantage for all present.

From the presidents' addresses the following may be of interest and give food for thought to bee-keepers who are not organized and rarely, if ever, attend bee-conventions:

H. L. Case, President of the Ontario County Bee-Keepers' Society.—When bodies of men are organized they become recognized. They are in a position to accomplish something by their united efforts. We have made advances in purchasing supplies and should do more in disposing of our products. We ought to keep up the price. Small, uninformed producers have sold fancy honey in this place at 10 cents per pound, ruining the market for others at the start. If anything could be done, we surely ought to do it.

J. T. Greene, President of the Seneca County Bee-Keepers' Society.—Of all the work men are engaged in, none is so full of enthusiasm as bee-keeping. In other enterprises we find dead men. We find dead doctors, dead ministers, lawyers and other professionals, but a bee-keeper, if he is at all interested in his occupation, he keeps either growing or he will drop out. In order to control and improve the market we must do missionary work—have these other

bee-keepers join our society, or buy them out.

FOUL BROOD AND ITS TREATMENT.

The question of foul brood is a grave one. The disease is spreading and coming upon us. Our very existence depends upon our vigilance to keep the disease in check. Let us be on our guard.

Chas. Stewart, foul brood inspector, emphasized what had been said about keeping up the home market. In his locality they had been successful—they had either educated or bought out.

On the foul brood question he took an optimistic view. The disease had cost a great deal to the bee-keepers, but there was a silver lining to it, after all. It had made better bee-keepers and taught them that they must keep in close touch with each other to control and cure this disease. Some slovenish bee-keepers had their bees entirely wiped out, while careful men saved theirs. There were not nearly so many diseased bees in the formerly badly afflicted districts.

In treating an apiary the bees are shaken only once. The hives are not disinfected, but the frames are steamed or burned. Only one out of 10 colonies shaken once needs shaking the second time. A careful bee-keeper can treat his bees with but little loss. He placed great stress again upon the fact that the Italian bee withstood the disease much better than the other common race. The Carniolans he found to be more immune than the common blacks. He also said that the disease could be cured in the fall by shaking

American Bee Journal

the bees into a hive of clean, provisional combs.

PRODUCTION OF HONEY.

C. B. Howard produces comb honey principally. As a side-line to the business nothing was equal to producing extracted honey. He thought the long ideal hive was all right for producing extracted honey. With regular 8 or 10 frame hives he was obliged to use queen-excluders between the upper and lower stories.

C. J. Baldridge uses the Root chaff-hive as made originally by A. I. Root. The frames in the upper story stand crosswise of those in the brood-chamber; his queens show no disposition to occupy the upper story, although no excluder is used on his hives. The first extracting is called and labeled No. 2, and a sample is put up the same as in the other case. The sample is also labeled with the corresponding number. Thus he continues throughout the season. By putting up his honey in square tin cans he knows at any time what his honey crop is, how much he has of each grade, and by his samples he sells his crop.

The majority of those present were not able to produce extracted honey without excluders. F. Greiner said that his queens would aim to occupy the top-story whenever there was a chance, leaving the lower stories practically empty of brood and generally of honey also. An excluder is necessary with him. Others coincided with him. H. L. Case produces extracted honey in large hives, giving queens free range; he wintered his bees in two stories, and brings his bees through the winter immensely strong.

Chester Olmstead was enthusiastic on this matter of wintering and keeping his bees in two stories. He said the way they came out in the spring made a man smile; and the amount of honey they stored made him smile again; he produces comb honey over the two sets of brood-combs.

An objection was raised on the grounds that such a large brood-chamber would wear out the queens very fast. To this Mr. Olmstead replied that he requeened every spring, and his queens were equal to the emergency.

Mr. Case said he would like it if he could wear out a queen in 24 hours, and Mr. Stewart remarked that if he could induce a hen to lay all the eggs she would naturally lay in her lifetime, inside one day, he would be glad, and he would get him another hen.

WINTERING BEES.

L. F. Wahl spoke on preparing bees for winter. He argued that we must begin in the summer, and he warned against robbing the colonies of their best stores. He showed that some honeys were lacking in body. By the use of a certain instrument it is an easy matter to test honey or syrup.

Next came an address on wintering in the cellar versus outdoors, with additional specifications of the requisites of a bee-cellar. Some visitors from neighboring counties were particularly interested in the bee-cellar question, and the speaker went into all the details. The bee-cellar must maintain a tempera-

ture of 45° F., as nearly as possible, for at this temperature the bees remain in the most quiescent state, and can endure the long confinement best. If during a mid-winter warm spell the cellar becomes too warm, doors and windows are opened nights, and closed up again during the daytime.

If the cellar is damp, unslackened lime may be used, and calcium chloride has lately been recommended for the same purpose. Mice must be looked after—baited traps should be kept set. Mice not only destroy the combs but irritate the bees. Bees should be disturbed as little as possible.

MARKETING HONEY.

Chas. Rose, on marketing honey, said he wanted to produce full-weight sections. He did not want to send out inferior honey. Such he would keep at home and sell to neighbors as cheap honey. There were always lots of people who wanted to buy cheap, cheap, cheap!

Mr. Stewart remarked here that we should never turn a customer away. Always have honey for sale.

Mr. Ballard placed great stress upon grading honey honestly, and to have everything connected with honey neat and clean.

Mr. Greene's experience seemed to show, that it made no difference how the grading was done. He had received no better price for his fancy honey than his neighbor did for the second grade. Some buyers do not seem to be very particular about the matter.

READING BEE-PAPERS.

Mr. Greene made another address after a recess. He said we ought to be more thorough in reading our bee-periodicals. He had met some bee-keepers who pretended to be among the first and best, and yet were very ignorant on what their bee-paper had published on a number of questions of importance. Bee-papers are a necessity; they are valuable—a real bee-keeper reads them with enthusiasm. We grasp a little here and find a little there; thus we keep gaining in knowledge and wisdom. With all our reading we ought to keep pace in *thinking*. We must not read our apicultural literature in the way we read our daily papers. I mark and note down all articles that are of special interest to me, and re-read at leisure. Out of the chaos of many ideas we draw and form our own.

HISTORY OF BEE-KEEPING.

W. F. Marks said that when he first kept bees they produced honey in large, heavy, unsightly boxes, and yet the price was 25 cents per pound. Now we produce it in fancy little boxes with a great deal more labor, and no more is produced now than in 1861, still the price we receive is scarcely more than one-half. Why the difference? Who is to blame? Organization. We ought to be careful whom we take into our bee-keepers' society. This is a good deal like the partnership cow. The one claimed to own the further end of the cow, and he wanted to do the milking, leaving all the responsibilities as to the other end—the feeding of the cow—to his associate partner. The partner

agreed to that, but found it very unprofitable business. Let us take a lesson!

Mr. Stewart gave a sort of historical sketch on management of the apiary for comb honey production. He said they used to have a large 12-frame Langstroth hive, taking a super of 44 sections. They had booming colonies then which often filled 3 or 4 big supers. The home-yard was run on the natural-swarmling plan, with a modified Heddon plan to prevent second swarms. The out-yard was worked differently, inasmuch as swarming was prevented by making new swarms by the nucleus plan. Later the "shook-swarmling method" was adopted.

REQUEENING AND QUEEN-REARING.

F. Greiner gave a sort of historical sketch. He had observed that young queens were an advantage, as fewer colonies were lost during winter, and the bees bred up better in the spring, but it was laborious to requeen every year. He was afraid that rearing queens by transferring larvae our bees might degenerate; he did not think it was on account of the possible injury of the larvae, because, if injured, the bees would discover it and remove them; but because the insect is not treated as a royal member from the beginning.

The transferring-of-larvae method is one of the easy ways to rear queens, and therefore finds favor with many, he thought. The baby or miniature nucleus or mating-hive was used on account of cheapness, but he preferred to use larger frames and more of them, thus having stronger colonies which would take care of themselves, required no fussing and feeding, and were not often robbed out. Four of his mating colonies are united at the close of the queen-rearing season, or about when buckwheat begins to yield honey. They are wintered in the cellar.

During the honey-flow he practices direct introduction of young queens, by allowing them to run from the comb of the mating hive on the regular-sized brood-comb taken from the midst of the colony destined to receive her.

Mr. Greiner wanted to know whether this manner of introducing would work during the buckwheat honey-flow. The answer given was that it was not a safe way. Caging the queen would be safe.

Mr. Olmstead said he enjoyed nothing more than to rear queens by the advanced methods, and he offered as a simplification of transferring young larvae, his simple instrument—a common "pin," with its point pushed into a little wooden handle.

The next convention (in 1908) will be held in Geneva, N. Y.

Report of the Chicago-Northwestern Bee-Keepers' Convention.

(Continued from page 51.)

The evening session began with the following question:

FALL HONEY FOR WINTER FOOD.

"Is fall honey unfit for winter food?"

Mr. Taylor—If it is bad for bees, it is.

Dr. Miller—What do you mean by fall honey?

American Bee Journal

Mr. Dadant—I was the one that asked the question. My reason for asking it was, that Mr. Taylor said this afternoon that for years he had lost bees in winter because they had fall honey, and that it was bad for bees. Fall honey is the honey that is harvested between the first of August and October, at least with us. I wanted to bring out Mr. Taylor and find out more information.

Mr. Taylor—Some kinds of honey are just as good as any for wintering bees. Buckwheat honey is generally good for wintering bees. Honey from swamp flowers is good if gathered in a dry fall when the weather is warm so that the bees can ripen it. Fall honey gathered from the swamps is often gathered in rainy weather, and from flowers which have an abundance of pollen, which mixes with the nectar, and in cold weather often the honey doesn't ripen, and the stuff mixed with pollen in an unripe state is apt to ferment; in such cases it isn't good for wintering bees. There is a difference in the source, and it all depends upon that and the weather. There are several kinds of fall honey. Some are perfectly good. Buckwheat honey is always good. Goldenrod is good. Boneset and other flowers that grow in swamps, milkweed, etc., if honey is gathered in wet weather it is apt to be bad for the bees.

Mr. Dadant—I see there is a great deal of difference in locality. We have one apiary in particular, but I have had 3 apiaries (have 2 today) that are in reach of the Mississippi River bottom. This is very swampy. The bees gather honey from the blossoms that grow only in damp ground—the Spanish needle, for instance. Those apiaries winter as well as any other. Mr. Taylor is right for his own locality. It is quite likely that boneset honey is bad. Heartsease is all right. Its honey is very thick, very rich, and all right for bees to winter on. We don't lose any more bees from those apiaries on the Mississippi River bottoms than we lose in apiaries producing almost exclusively white clover honey. The greatest risk is in unripe honey, or in a suddenly cold season when the bees must go into winter quarters with unsealed honey. The honey gathers moisture from the atmosphere. In the main, Mr. Taylor and I agree as to conditions. Fall honey is not bad for bees if properly ripened.

Dr. Bohrer—We have no trouble unless we have excessive rainfall and moisture. If honey is not properly evaporated, and poorly sealed, there is trouble. I have never had but one case of dysentery among my bees. The sun's rays did not strike the hive. It had no chance to evaporate, and the bees had no warmth in the hive to evaporate it. It may have been the chemical condition of the atmosphere. I don't know. The honey seemed to be thick enough. At one time I took 3 frames out of the hive, but it was not all sealed. I wouldn't have fed it to the bees, but we used the honey up before it spoiled. At one time, when I was living in Indiana, there were thousands of colonies died of cholera. The honey soured right in the combs, in the apiaries and in the cellars, and

dysentery among the bees was the result. It was not contagious, for as soon as warm weather came I saved the bees. The same trouble that killed the bees then existed all through the season. The condition of the weather has a great deal to do with it, excessive moisture in the atmosphere.

Mr. Wilcox—My opinion is entirely with what has been said. My opinions are based upon experience. Fall honey is not injurious because it is fall honey. It is injurious for other reasons. Boneset honey is bad. Honey-dew is always undesirable. That is, the honey-dew from aphides. The cause of fermentation does not depend upon the fact that it is gathered late in the season, but upon the conditions when it is stored in the hive. Left in the hive and the colony becoming weak, the honey would absorb moisture from the air and become poor honey. If the bees keep it covered it is all right. The combs absorb moisture and the honey becomes thin and unfit for food.

Mr. Wheeler—I have a little experience that proved to me very definitely that honey-dew was not detrimental to bees. A friend of mine where I keep the bees in the summer time, at La Grange, Ill., suggested to me when I moved my bees up to the sweet clover in July, that I let his stand there. There were 11 colonies. They went to work right away, and worked all through August and September and filled the hives. I was talking to Mr. Burnett about it. We thought now was the time to find out whether or not honey-dew is fatal to bees. Under the same conditions as my bees were, his bees came through in tip-top good shape. I don't believe there was an ounce of honey but was gathered from the aphides. But they wintered well on it.

Dr. Bohrer—Fall honey is good winter food. As good a winter food as my bees ever had is heartsease. My bees load the hives with it and they always winter well on it. It is a very dark honey. (Continued next month.)



By W. A. PRYAL, Alden Station, Oakland, Calif.

Honey and Lemons.

Here are two extremes—honey and lemons. One is sweetness for the gods; the other sourness personified. Yet, I am going to show that they go well together; that they can be used not only by the bee-keeper but by everybody.

Have lemons and honey in your home and you need never be sick—provided you be a wise consumer of them. Honey may be used all the time; lemons may be used as frequently as you wish, and the oftener the better. I have used honey and the juice of lemons for colds, and there is no better remedy, I believe. In preparing lemon candy use some honey in the mixture, and it will be all the better.

The medical fraternity well knows the value of lemons; not so many are acquainted with the medicinal properties of honey. I am going to quote a couple of paragraphs about the lemon I found in a paper. Instead of using sugar in some of the remedies, honey may be substituted with advantage:

"Lemonade made from the juice of a lemon is one of the best and safest drinks for any person, whether in health or not. It is suitable for all stomach diseases, excellent in sickness, in cases of jaundice, gravel, liver complaint, inflammation of the bowels and fevers. It is a specific against worms and skin complaints. Lemon-juice is the best antiscorbutic remedy known. It not only cures the disease, but prevents it. Sailors make daily use of it for this purpose.

"We would advise every one to rub

their gums with lemon-juice to keep them in healthy condition. The hands and nails are also kept clean, white, soft and supple by the daily use of lemon instead of soap. It also prevents chilblains. Lemon is used in intermittent fevers, mixed with strong, black coffee, without sugar. Neuralgia, it is said, may be cured by rubbing the parts affected with a cut lemon. It is valuable also to cut warts. It will remove dandruff by rubbing the roots of the hair with it. It will alleviate and finally cure colds and coughs, and heal diseased lungs if taken hot on going to bed."

In addition to the above, I will state that when applied to the hands in connection with glycerine the hands are not so liable to retain propolis stains after being washed; in fact, it is much easier to remove the troublesome propolis when the hands are thus treated. The lemon-tree is a much easier tree to grow than most people imagine. We have a continuous supply of lemons from our trees the year round, and they are as fine and large as one could well wish to see. Bee-keepers in the greater part of California and all the warmer portions of the United States, should try to raise a few lemon trees. They will not regret it if they do.

Changing Names.

Botany is supposed to be a fixed science; that's what it is for. Yet there has been a good deal of shifting of botanical names during the past score of years. To some extent this is neces-

American Bee Journal

sary, especially when there is a conflict of names. A few years ago our world-famous honey-sages were referred to the genus *Audibertia*. We now find them called *Romona*. As far as I have been able to run the matter down, there seems to be quite a mix-up in the shift. Of course "a rose by any other name would smell as sweet," and equally true our sage honey has been just as sweet when going under the name of Helen Hunt Jackson's queen of the Southern California sheep-ranch.

In this matter of shaking up of botanical names, Prof. Meehan, the great American horticulturist, bemoaned the craze for changing the name of plants. (Meehan's Monthly, Vol. 1, p. 48.) To quote him:

"Sound as this principle of priority may be in the abstract, in practice it would throw gardening literature into confusion. It takes a long time for nurserymen and florists to familiarize the community with a plant's name. They can not be expected to re-advertise over and over again to make corrections, because 'somebody blundered.' Meehan's Monthly will feel bound to continue names already in use, however wrong they may be in the abstract, provided they are the names adopted in some standard work. Plants named in Gray, Chapman, Coulter, or Watson, may not always be the strictly correct names—but it seems that it is best to allow these leading works to correct their own errors, if we would keep from endless confusion in nomenclature."

Here I might mention that our world famous big trees of Calaveras and Mariposa counties, wander about, figuratively speaking, over the face of the globe, under no fixed name. European botanists seem to persist in the use of *Sequoia Wellingtonia*, while we use *S. gigantea*. Even our famous redwood was previously called *S. gigantea*, so that it is not botanically entitled to be styled *S. sempervirens*, and, it is claimed, the Big Tree should not be called *gigantea*, for, by priority, the redwood was so named first. A patriotic doctor and scientist in San Francisco in the early days suggested that the Big Tree be called *Washingtoniana Californica*—a long but very good name.

Since the above was written I have received a letter from the director of one of the largest botanical gardens in the world, in which some question is raised as to the correctness of the name we have for half a century and more known our Century Plant by, namely, *Agave Americana*. The plant is now up before the court on trial for its true name, and what the verdict of the jury will be I know not. The result will be given in these columns in due course of time.

The Flowering Wild Currant.

One of the very earliest native plants to bloom in California is the rose-colored flowering currant (*Ribes sanguineum*). The plant is not only common along the coast of California, but is also found near the Pacific from British Columbia to Mexico, even extending over the borders of those countries. Here it begins to bloom before Christmas, oftentimes before it has put forth its leaves.

Further south it blooms sometimes as early as November. When in full bloom during January the plant presents a pretty appearance with its wealth of droop-

our folk admire the specimen in our garden as much as they do some of the more "vogueish" plants.

The flowers are rich in nectar, as I



RED FLOWERING CURRANT OF CALIFORNIA

ing, many-flowered racemes. The flowers are sweetly fragrant, while the leaves exhale a rather pleasant pungent odor. It is worthy of a place in any garden;

have mentioned on a former occasion. During several weeks it is in bloom, the bees hold high carnival among the numerous blossoms.



Doctor Miller's Question-Box



Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
Dr. Miller does not answer Questions by mail.

Best Extracting Frames and Sections —Section Foundation.

1. Please give me information on using home-made frames such as Langstroth, without comb foundation, for extracted honey, and also for the lower story? Would the bees start without any trouble if there were no foundation for them to start on? and how would it be to use one-pound sections without any foundation?
2. What kind of foundation would you recommend for honey in one-pound sections?
3. What kind of one-pound sections would you recommend for comb honey.

PENNSYLVANIA.

ANSWERS.—1. My good friend, don't for a minute think of using either frames or sections without foundation, unless you want the bees to build crosswise part of the time. At least have starters, and it is generally considered real economy to use full sheets.

2. Some prefer "extra thin," but all things considered my own preference is "thin."

3. Different markets may prefer different kinds. Probably the most generally popular section is the $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{2}$, open top and bottom.

Why Didn't They Store Honey?

I put 80 colonies of bees in the cellar last fall. I had a queer experience with them last season. Four colonies began swarming about June 8. The queens were clipped and they would swarm out every 2 days, and I

kept the queen-cells all cut out. But the second day I would find new cells built up again, which I would also cut down each time, and the queen-cells looked as if they were worker-bees about half grown. The old queens were, one full-blooded golden Italian, and 3 hybrids, and good breeders. They were good, heavy colonies, and had plenty of room in 10-frame hives, with 2 or 3 supers. But they didn't store any honey above. I could find no reason for their acting so. Can you give me any information or remedy? WISCONSIN.

ANSWER.—There was nothing unusual in the case, and you may count on it as the regular program. The queens were clipped, and returned to the hive with the swarm, and so long as the queens were there they would continue rearing queen-cells and swarming. Sometimes, however, a clipped queen is lost when the swarm issues, and in that case no swarm will issue till a virgin queen emerges. If you put your ear to the hive every evening a week after the first swarming (supposing the queen was lost or removed by you), until you hear the young queen piping, and the next morning destroy all queen-cells, there will be no more swarming.

Using Hives and Supers after Foul Brood.

Last spring I bought 3 3-frame nuclei and started in to learn bee-keeping. They developed rapidly, but got foul brood. It was late in the season and I burned everything but

American Bee Journal

the hive-body and supers. A local authority told me to paint the inside of the hive with coal-oil and burn it out and the hive would do to use again. Now I did a good job of this, I know, and I then took sand-paper and cleaned off the charred particles. The bees did not go into the supers; that is, they never did anything towards drawing out the starters, or even put a particle of honey in the bait sections. The same person told me that as no honey was carried into the super they would be safe to use. I burned the sections and separators.

Now, can I use those hives and supers again? They are all new, and I don't want to lose the whole thing. I have just finished reading "Forty Years Among the Bees," but failed to find what I want to know.

ANSWER.—Very good authorities say you are perfectly safe in using the hive and supers without burning out or doing anything to them. Certainly the burning could do no harm.

Getting Increase Otherwise Than by Natural Swarming.

1. As I don't like to have natural swarming, do you think it would be safe for me to try Alexander's method of increase? (Page 423, in *Gleanings for 1906*).

2. Is there no danger of the bees all entering the top story, leaving the queen all alone in the lower?

3. When taking the top story off, how many bees should go with it?

4. Do you consider the above method better than allowing natural swarming with clipped queen, or dividing by forming nuclei? I have two bee-books, "A B C of Bee Culture" and "Forty Years Among the Bees," so I have read of different methods, but I should think the above to be best. Having only a few colonies I don't want to run the risk of losing any.

MINNESOTA.

ANSWERS.—1. What's best for one is not best for another. Mr. Alexander depends largely upon late harvests, has thousands of acres of buckwheat, and for him it is all right to divide his colonies and increase his crops. For me it would be a dead failure, and I'm pretty sure it would be for you.

2. Enough bees will remain below to care for the queen.

3. I think Mr. Alexander takes all that are in it.

4. No, not for me, and probably not for one in a thousand in the North.

Moving Bees—Increase—Italianizing—Best Hive for Wintering Out-doors.

1. Can hives be moved from their original place, say 50 or 100 feet without confusing the bees? Are there any special rules to be observed?

2. I have 4 colonies of bees. How many times can these be increased by the end of the season without weakening them too much? How should this be done?

3. My bees are hybrids. Could I change to Italians? If so, how?

4. What kind of a hive is best for wintering out-doors in this latitude?

WEST VIRGINIA.

ANSWERS.—1. If you move them before they have had a spring flight there will be no trouble. After that there will be lots of trouble, as the bees returning from the field will return to the old location. One way to help is to fasten the bees in the hives in the evening or very early in the morning before moving; after moving, leave them shut in till the middle of the day, pound on the hive until the bees roar, and then let them out, putting in front of each entrance a board for them to knock their noses against.

2. In a very poor season once may be too often. In a phenomenally good season an expert might increase 8 or 10 times. On the average, doubling will probably be enough. You have your choice of all the different ways—natural swarming, shaking swarms, the nucleus plan, etc. A thorough study of principles in your bee-book, and a careful consideration of your conditions will help to decide which way is best for you.

3. Yes, by introducing Italian queens. But you can take a short cut on that. Introduce an Italian queen early enough into a colony, give it frames of hatching brood from other colonies to make it very strong, so it shall swarm first. Call this No. 1. When it swarms, give the swarm on the old stand, set No. 1 on the stand of the strongest re-

maining colony, and move the latter to a new location. In a week or 10 days a second swarm will issue from No. 1. Set the swarm in place of No. 1, and put No. 1 in place of the strongest remaining colony, setting the latter in a new place. A day or 2 later No. 1 will swarm again, and it will continue to swarm several times more, and every time you will put the swarm in place of No. 1 and put No. 1 in the place of the strongest remaining colony. Thus you will have an Italian queen in every one of your colonies.

Queer Swarms—Price for Honey—Wintering Bees on Platform.

1. I had trouble with my bees last year. They would swarm and after I had hived them they would come out of the new hive and go back to the old home hive. They would probably swarm again the next day with the same results, doing this several times. One colony did this 5 times. What was the reason?

2. Do you think 10 or 12½ cents cash is enough for comb honey in the home market, or could I get more by shipping to some firm buying honey? This is all I can get here, and it is hard work to dispose of it at these prices.

3. I place my bees on a platform about one foot high and set the hives on this about one foot apart, to winter them. I then put hay or straw around them except in front of the hive. I put boards or rubber roofing on top of this to keep them dry. Do you consider this a satisfactory way to winter bees?

IOWA.

ANSWERS.—1. Bees are freaky creatures, and it isn't easy always to give reasons for all they do. A swarm often deserts the hive in which it is hived because it is too hot and close. The remedy is to have the hives shaded, and with large opening for ventilation. Swarms leaving their hives in this way, however, are more likely to take French leave than to return to their old homes. Sometimes a queen is not able to fly with the swarm (it sometimes happens that bees tear a queen's wings), in which case the bees may return immediately to the hive, or they may settle and allow you to hive them, and then return.

2. No, it is not enough, if the honey is first-class and put up in good style. You may, and you may not, do better by shipping; but you can find out by inquiry. A very small outlay in advertising might bring good results. But you should make some effort before being satisfied with too low a price.

3. Very likely; although surroundings may make a difference.

Preventing Afterswarms—Chunk Honey vs. Section Honey.

1. I intend to let my bees swarm once, and if possible prevent any afterswarms by cutting out cells. Would you advise me, when a colony swarms, to put the swarm on the old stand, removing the parent colony to a new location? Of course we are told in our books to hive in this way, but I would like to have your opinion about it.

2. Can I get more surplus in this way than to leave the parent colony on the old stand, putting the swarm in a new location?

3. If there is any difference, which is the most likely to leave, a swarm with a young queen say one year old, or with one 2 or 3 years old?

4. I see some bee-keepers advocating the production of chunk honey instead of section honey, claiming it is cheaper than to fuss with sections. What is your idea about it?

TEXAS.

ANSWERS.—1. Yes, the plan is good. Only instead of cutting out cells I would set the old hive close beside the swarm, and then a week later move the old hive to a new place. Then the bees will destroy the cells themselves.

2. Yes, in nearly all cases.

3. One is perhaps as likely to abscond as another: if any difference the younger queen might be first to go.

4. If I were in Texas I'd likely go in for bulk honey.

Difference in Bees—Drone-Laying Queens and Laying Workers.

My bees are all hybrids, and during the past summer I sent for Italian queens from 3 different breeders with a view to improving the stock. The queens were accepted and bred up strong in bees, but the fielders issued about a week after the honey harvest was past, so that there was nothing for them to get in

the fields. I could see no difference between 2 of the colonies of Italians and our own, except that they had a little more yellow on them. The bees of the third colony had still more yellow than the other 2, and are very pretty to look at, but—oh, my! such robbers! Even when the weather wasn't fit for our own bees to fly, that colony would be out sneaking around at every hive, trying to get in.

One cold morning, when few bees were flying, I took a chunk of comb honey out about 20 rods from the apiary. I waited 10 minutes, and in that time there were about 100 of the real yellow bees on the comb, and about 10 hybrids, and half an hour later there were thousands of yellow bees, with few hybrids. The wind was coming from the direction of the apiary, so that the bees would have to be out in the field in order to smell the honey. There were 57 colonies of hybrids.

1. Is it safe to breed from such a queen, and will they not be liable to rob the others out of house and home?

2. Different writers claim that drone-laying workers are the only ones guilty of laying eggs to the sides of a cell. Last fall I found a colony with a drone-laying queen of 1907's rearing, and I found lots of worker-cells with 2 and 3 eggs in a cell, some at the bottom and others stuck to the sides half way down. In such a case, is the colony liable to have laying workers acting in conjunction with the drone-laying queen?

3. Another colony had a queen that laid both drone and worker eggs in worker-cells, but there were mostly small drones hatching out. The queen was a wee, small thing, so I killed her, took out all the brood I saw, and introduced a tested queen. Eleven days later the queen was dead in front of the hive, and on looking through the hive I found 3 small queens, and 3 open queen-cells in a bunch, but with not an egg nor a particle of brood elsewhere in the hive. Two of the virgins were killed, and the other will be a drone-layer, as it was October 10 when she was hatched.

4. Did I do right to kill that queen, or would she have turned out all right next year?

ONTARIO.

ANSWERS.—1. It will probably be all right to breed from her. It looks as though it might be that the robbers are unusually active and the robbed rather lazy, and that the same activity in robbing might show in a more favorable direction in time of a good honey-flow.

2. I think I never heard of laying workers being present with a laying queen, at least for any considerable time. Queens sometimes lay eggs on the sides of cells.

3. The probability is that the queen you killed would have got worse instead of better, and you did right to kill her. The drones were small because reared in worker-cells.

Air-Space in Super Cover.

Should there be an air-space between a ¾-inch flat super-cover and ¾-inch telescope cover 9 inches deep, with painted tin over the top? The hives are set out in the open and are run for comb honey.

The above is a regular Danzenbaker super and the Root cover and K telescope cap. It amounts to 2½-inch boards and a sheet of tin (or galvanized iron), all tight together.

PENNSYLVANIA.

ANSWER.—An air-space will be warmer in cold weather, and cooler in hot weather; for that air-space is a poor conductor of heat.

Foul Brood—Hybrids vs. Italians—Wintering Bees Under Bank Barn.

1. Can foul brood be cured without destroying all the bees? If so, how?

2. What is the cause of foul brood? Is it some poison that they bring in with the pollen that kills the brood?

3. Can bees gather honey and pollen at the same time?

4. How many eyes does a bee have?

5. Are hybrids just as good to gather honey as full-blooded Italians? Will they gather just as much?

6. Can bees be wintered under a bank barn even if it freezes where they are? Is it better than leaving them out-of-doors where they have no protection whatever?

SUBSCRIBER.

ANSWERS.—1. No need to destroy the bees; the disease is only in the brood. The McEvoy plan is generally used in curing. In the honey season, when the bees are gathering freely, remove the combs in the evening and shake the bees into their own hive; give them frames with comb-foundation starters on and let them build comb for 4 days. The bees will make the starters into comb during the 4 days and store the diseased honey in them which they

American Bee Journal

took with them from the old comb. Then in the evening of the 4th day take out the new combs and give them comb foundation to work out, and then the cure will be complete.

2. The disease is caused by a bacillus, generally through getting honey from a diseased colony.

3. Yes.

4. Three single eyes and 2 compound eyes, each of which is made up of some 6,000 little eyes.

5. Yes, the first cross or so, but later not so good.

6. Generally they do better out than in anything confined, unless the temperature is up to about 45 degrees most of the time.

Dudley Tube Method—Comb or Extracted Honey?

1. Do you practice and recommend the Dudley Tube method, as described in Bee-Keepers' Review for August, 1907?

2. Everything considered, which do you think the more profitable, comb or extracted honey?

ANSWERS.—1. I have had no experience with it.

2. "Actions speak louder than words," and as I am running for comb honey exclusively it is pretty clear that I believe that the most profitable. There are those who say extracted is the most profitable. I think they are right. I think I am right, too. You see, it's a matter of conditions. The market, the pasturage, and a number of other things have to do with the case, and each one must find out for himself. Other things being equal, I think I should lean toward extracted, for it's a much simpler matter to work in that direction, especially if one wants to keep down swarming.

Wintering on Sugar Candy—Observation Hive for Wintering—Getting Increase and Honey.

1. I have 9 colonies which are wintering on sugar candy. Would you advise me to put them out quite early, or late?

2. Would a colony winter all right in an observation hive with 3 frames, the hive being set in a south window so that the bees could fly out-doors when the weather was favorable? The bottom-board is made of 2-inch lumber with grooves in it to pour syrup in.

3. Would the following plan be a good way to increase? After the bees get strong in the spring put a hive with empty combs on a stand. Then shake the queen and bees into this empty hive. Also put in one frame of brood. Then put on a queen-excluder and on top of this excluder place a super. Then put another excluder on the super. Then place the queenless colony on this excluder, leaving them to rear a queen. After the queen is hatched bore a hole in the back end of the hive to let her out to be mated. After she is mated plug up the hole.

4. Would the above plan be all right to secure surplus honey?

ANSWERS.—1. Take them out the same time as you would if they were wintering on honey. Certainly not too early. If they seem in good condition and have plenty of stores, they will do well to stay in the cellar till there is something for them to do outdoors, say when soft maples are in bloom.

2. Such attempts have not generally been very successful.

3. In theory it seems all right; in actual practise the queen above too often fails. Better try a single colony before you try it on a larger scale.

4. It might do for extracted, but not for comb honey. Brood-combs above would darken the capping of sections.

Packing Bees for Winter.

Mr. Danzenbaker, in his "Facts About Bees," instructs one to pack bees in his hives, as follows:

Take cover off brood-nest, put on a Hill's device (or boards laid across frames to give opening over frames), oil-cloth over top, super with cushion, super cover, burlap, paper, carpet, roofing-paper, or other packing, with winter case 11 1/4 inches deep over all. Now that is very warm packing, but the depth is not enough to winter well in this climate.

What do you think of raising the brood-nest and placing the empty super under the brood-nest on the bottom-board, leave the super-cover sealed by bees, place cushion on super-

cover, pack with paper, etc., as above and shove winter case down over all? That will give 5 1/4 inches more depth and will hold the warm air that much longer, before crowding out. When spring comes, put brood-nest down on bottom-board. I have seen bees in a box-hive 12 inches square and 2 or 3 feet high made of one-inch hemlock boards, with no packing, winter on the summer stands 100 miles farther north than here, and come out alive. If it is not the lack of depth that makes them winter badly, what is it?

PENNSYLVANIA.

ANSWER.—The wintering question is a very complicated one, and the longer one works at it the less one seems to know about it. One settles down that deep frames are a necessity for wintering, and then comes along some one saying he has perfect success with very shallow hives. In any case it does seem as if it ought to be a good thing to have room enough under the bottom-bars so the dead bees would never clog the entrance or fill the space under the frames. Your plan is at least worth trying, and it might be a good plan to try both plans side by side and then you will tell better which is preferable.

That very large hive doesn't prove much one way or the other, except that a very strong colony will winter almost any way, for the likelihood is that a colony left to its own way in such a mammoth hive will be very strong.

Location of Queen-Cells.

I was pleased to see that picture and account of that queerly located queen-cell on page 39, sent by Dr. Miller. Bees generally do things to make themselves comfortable for the time being. So in selecting a place for a queen-cell, if the colony is very strong and the ventilation defective and the weather warm, all other things being equal, the queen-cells, as a rule, will be placed away from the center of the hive, at or near the end-bars and bottom-bars. Weak colonies generally build near the center of the brood-nest. Wide bottom-bars obstruct ventilation and have a strong tendency to drive the bees out of the brood-nest, and especially so in hot weather. I think the colony that built that queen-cell was a very strong one. Will the Doctor kindly tell us if I am right or not?

Almyer, Ont.

ANSWER.—I have no memorandum of the colony from which that cell was taken; but it's a very safe guess to say it was strong enough so that bees were clustered well under the bottom-bars. My guess would be that the entire space of 2 inches below bottom-bars was well filled with bees. I have had several cases of the kind since I have allowed the 2-inch space below, with a rack that prevents building down, yet still allows the bees to cluster in the space.

Splints for Foundation—Feeding Candied Honey—Natural Swarming Wanted.

1. Please give me full particulars as to how to use splints in frames for full sheets of foundation. I use the Danzenbaker frame.

2. Do the bees ever cut the foundation on each side of splint and refuse to build around it?

3. Having never used any splints, would you advise me to use them in all my frames on the start?

4. Is there any way that I can make the foundation hang perfectly straight in Danzenbaker frames without using either wires or splints? I would not use anything in such shallow frames as the Danzenbaker, only my foundation is so uneven and wavy—or "twisty" might express it better—after I get it in the frame. Sometimes the bottom edge of one sheet will be curved clear over to the next frame.

5. How are chunks of candied honey put in dishes in an empty super over a colony, in the spring, for stimulative feeding? Of course, there would be a small hole for the bees to come up and get the honey.

6. I want my bees to swarm naturally. If I introduce new queens just before swarming time, would that be apt to stop, or delay, swarming?

PENNSYLVANIA.

ANSWERS.—1. Put the splints in vertically, 1 in the middle, 1 an inch or so from each end, and then 1 half way between the middle splint and the splint at each end. That makes 5 for each frame. For convenience in putting in, the splints should be 1/4 inch shorter than the distance between the top and bottom bars. Put them in a shallow dish of hot

beeswax. They will foam up as the moisture fries out of them, and when they stop foaming they are ready to use. If used too hot, there will not be enough wax covering the splints. If too cold, they will not bed so well into the foundation. A little practice will allow you to get just the right heat. Have a board that will fit just inside the frame for the foundation to rest upon; lift each splint and lay it in place with a pair of nippers (it doesn't matter whether the 1/8-inch space is left at the top or bottom or whether partly at both), while an assistant presses down each splint with the edge of a little board kept constantly wet.

2. There is no trouble if the foundation is given to the bees at a time when they are at work, so it will be built at once. If given when there is nothing coming in, there may be some trouble, and there is sure to be trouble by their digging a passage immediately over the bottom-bar.

3. You would probably be quite safe in using all.

4. No; the only thing I can say is to have the hive perfectly level from side to side.

5. You have told about all there is of it; only with a very small hole the bees may be slow about coming up to take the feed. Give it when it is warm enough for the bees to come up freely, turn over one corner of the quilt so there is a very large opening, and after they have learned the way you can leave a very small hole at the corner.

6. Yes, it would likely be some hindrance, and a very great hindrance if you replace old with young queens.

Alsike Clover Seed.

Where can I get some good alsike clover seed?

ILLINOIS.

ANSWER.—Any store that sells red-clover seed and other seeds ought to be able to furnish alsike, since it has come into so common use. You will also find it advertised in this paper now.

Keeping Bees on a Small Lot.

1. I have a small lot in my back yard about 40 feet square. Can I successfully keep from 60 to 80 colonies of bees on it? If so, how would you place them?

2. Will they molest my neighbors if I put a board fence around? How high should the fence be?

3. Is it lawful to keep bees anywhere in the State of Pennsylvania in this manner.

PENNSYLVANIA.

ANSWERS.—1. On 40 feet square 100 colonies can be kept easily. More if 8-frame hives. Put them in groups of 4. Set a pair close together, then a space of 2 or 3 feet, then another pair, then a space, and so on until the row is filled. Then put another row close to this, the hives facing in the opposite direction, the hives of the 2 rows being close together, back to back. Then start another row facing the last row, with a distance of 3 or 4 feet between, and so on. With only 60 hives you can have more space between rows. The fundamental idea is to have groups of 4 hives, the 4 being as close together as they can be without actually touching.

2. A fence 6 feet high or more will be a great help. It need not be such a very close fence; the bees will not be likely to go through cracks of 2 or 3 inches. Vines running on some kind of trellis will be effective as well as ornamental.

3. I think it is. Be sure, however, to keep on the safe side by doing all you can to avoid trouble. Don't have bees that are cross; and don't stir them up when they might sting passers-by.

Absolutely Pure Honey—Insuring Bees—Valuable Ideas on Bees.

Last month I sent in some questions. They were answered on page 55. I wish to draw your attention to one question and answer in particular. This is question No. 8, "Sugar syrup in section honey." Your answer to this was "Yes." That is what my guess would be to your answer, but the funniest part of it is this: If you have a strong colony of bees storing honey in sections from white clover, or in fact, any other fast-yielding honey-plant, and all of a sudden the supply is cut off from drought, the bees will then begin filling up the unfinished sections from anything that has the least bit of sweetness, such as drippings from molasses casks, decayed pears, grapes, etc., and will even venture into candy factories, and load up with all kinds of flavors in sweets, and will invariably fly to their hives and deposit all this highly flavored sweetness

American Bee Journal

in the sections. Now, then, Doctor, here is where the bees fool the bee-keeper, the consumer, and the pure food law. What I wish to know is, if you can tell me how the bee-keeper, consumer, and the pure food law are going to know when there are foreign substances in comb honey. Is there an instrument on the market that will tell if comb honey is pure? If there isn't, then I will venture to say that every comb-honey producer in the world will violate the pure food law, because no matter how fast honey is coming in, you will always find some bees that will insist on loitering around bakeries, grocery stores, and candy factories, loading up with the stray sweets of those places. This is generally the rule with my bees in this city (Troy, N. Y.). Now, how am I going to overcome this difficulty, as I do not wish to violate the pure food law by putting on the market comb honey that is not pure?

2. Can you give me the name and address of any insurance company that insures bees when housed in buildings?

3. In your opinion, what race of bees is most suitable for New York State?

4. Doctor, why don't you tell us in the columns of this Journal some of your good and valuable ideas that you use in connection with the management of your apiary? You know right well that we would all be pleased to read them over a great many times.

NEW YORK.

ANSWERS.—1. I don't know. As you state the case it's entirely outside my experience, and if I were in a place where my bees would do as you think yours do, I'd go out of the business. But I can't help wondering a little whether you may not be mistaken about your bees. One thing that makes me think it possible is, that you are so very wide of the mark in venturing to say that without a certain instrument "every comb-honey producer in the world will violate the pure-food law." I spent a delightful day once at one of Mr. Mercer's apiaries in California, away out in the lonely California hills, and no matter how fraudulently his bees might be inclined they just couldn't violate the law by storing from candy factories, molasses barrels, etc., for nothing of the kind was within reach. And there are enough situated like him to make your assertion a very reckless one. Neither do I believe my bees and the bees of others any more guilty. It is true that when the harvest stops bees will skirmish around for anything in the line of sweets, but in this locality, at least, they never get it in quantity enough to meet their daily needs, to say nothing about storing.

2. No, but probably your local insurance agents can tell you all about it.

3. So far as I know, Italians.

4. Bless your heart, that's just what I'm trying to do all the time. There isn't a number of this paper in which I don't give something of my experience, generally in the form of opinions based on experience. [Dr. Miller's book, "Forty Years Among the Bees," contains quite a number of his "valuable ideas." —EDITOR.]

Queens in Cells by Mail—Average Yield Per Colony—Painting Shipping Cases—Comb Honey Shrinking.

1. Would queens sent by mail before hatching (in queen-cells) during warm weather, carefully protected, stand a chance of living? Has it been tried? What do you think of the plan?

2. Has the Hoffman frame the same measurement for the top-bar? If not, which do you prefer, in width?

3. Can you tell me your average yield of honey per colony on a run of the past 10 years?

4. Do you consider it advisable to paint shipping-cases white after they show age, stain, and shop-wear?

5. If I should weigh each section of honey and mark its weight when perfectly ripened and cased, would there ever be any danger of its shrinking in weight from storage?

ROCKTON.

ANSWERS.—1. Virgin queens have been sent by mail successfully; in Switzerland more or less success has been obtained in sending eggs; but I think I never heard of sending a young queen in a queen-cell. If the young queen were just about ready to emerge when mailed, she ought to go through all right, providing that would be any advantage over sending a virgin. At any time earlier than that it would hardly be worth while to try a sealed cell; if the orthodox teaching is correct any carelessness in handling while the young queen is in the pupa state results in crippled legs and wings. I see no reason, however, why an unsealed cell might not go through all right.

You have, I think, an untried field to experiment in.

2. I don't understand: "same measurement" as what? Top-bars of Hoffmans have been as narrow as 1 inch, and perhaps as wide as 1½. I prefer the width that will make bees build the least between 2 top-bars, and that is probably about 1½, supposing the spacing to be 1½ from center to center.

3. I can not tell without a lot of looking up, and if I did the next 10 years might not be the same. Perhaps it will be about as satisfactory to say that the crop has varied all the way from nothing to an average of about 120 pounds of section honey per colony.

4. I never get shipping-cases back, and never painted one. For a home market it might be better to paint them than to have them look dirty.

5. I hardly think so.

Foolish Questions?—Hardly.

I sent several questions to Dr. C. C. Miller last month, but was very much disappointed not to find them answered through the columns of this Journal. I don't know, but probably the Doctor thought they were so foolish that he could not spare the time to answer them. However, I would consider it a very great favor to hear what he has to say about them.

NEW YORK.

No, I'm not at all likely to think questions too foolish to answer. The memory of the many, many questions that came up in my early experience is yet too fresh to make me hesitate to let in the light wherever I can. Of course it is not expected that in this department things will be repeated that are to be found in every book on bee-keeping; but after one has read all that is to be found in the text-books, there are plenty of questions still to be answered. So, if answers to your questions have not appeared by the time this is in print, you may be sure that is not because of the character of the questions, but because your letter has miscarried, or because of some other accident; and if you will kindly repeat the questions I will take pleasure in answering them to the best of my ability. Bear in mind, however, that if a letter is not received before a certain time the answers can not appear until a month later.

Italians vs. Hybrid Bees.

I started last spring with 4 colonies of good hybrid bees. I hived 9 swarms, and sold \$20 worth of honey at 20 cents per pound. The honey-flow lasted about 3 weeks. Before and after that it came very slowly. Now I have 12 colonies in fairly good condition. One was lost by robbing. I learned a great deal by it. The last of June I put back some unfinished sections, and found nothing added to them during the season. Two colonies had ample stores for the winter, and 2 I am feeding with sugar syrup. Now I want to improve in quality and quantity.

1. Should I introduce Italian queens to such colonies as seem to lack as honey-producers?

2. Should I divide the strong colonies so as to make 2 or more? If so, when and how should it be done?

I have "A B C of Bee Culture," and the American Bee Journal.

KENTUCKY.

ANSWERS.—1. Most emphatically it is advisable to get in better queens wherever the work of a colony shows that the bees are not up to the work. Sometimes, however, a colony may do poor work when the queen is not at fault, as when in a weak colony that for some reason has not had a fair chance to become strong. Whether it is better to buy pure Italian queens depends on what stock you have; for I take it for granted that you mean to buy the pure stock. At any rate, get a good queen wherever there is a poor one, either by buying or by giving a queen from your own best stock. A big lot depends on the quality of your stock.

2. Whether you should divide your strong colonies depends on circumstances. If you care for honey, and not for increase, of course there should be no dividing. If you care for increase, then it is a question whether it is best to depend upon natural swarming or to take the matter of dividing into your own hands.

If you prefer to do the dividing yourself, there are so many ways that it is hard to say what may be best for you. Possibly the nucleus plan, taking away from one of your best colonies its queen with two frames of brood and adhering bees to form a nucleus, and about 10 days later dividing the colony into as many 2-frame nuclei as you can, having one or more queen-cells for each, and gradually building up the nuclei into full colonies by giving brood, or brood and bees, from other colonies. It

will help if you previously build up very strong the colony to be divided, giving it frames of sealed brood from other colonies. You can in that way have it with 12, 15, or more frames of brood, and of course the more brood the more nuclei. If you happen to have the book "Forty Years Among the Bees," you will find the matter of artificial increase more fully treated than in most of the text-books.

Management for Increase of Honey.

In the fall of 1906 I had 2 colonies of bees which were blacks. I decided I would introduce some new queens to them. Well, I looked them over and found only one with straight combs, so I ordered one queen. I thought the other almost too much to undertake so late in the fall. I succeeded in introducing her all right. Both colonies came through the winter very well. Last spring being a very bad one on bees here, being so cold, they got but little honey from fruit-bloom. Then I had one Italian and one black colony to run the race in 1907. Well, I never saw bees work like those yellow bees did. They seemed to be in a big hurry all summer, and the blacks took times easy, the only time they were in a hurry being when they heard it thunder and rain, and then they made very good time to get home.

In the fall of 1907 those yellow bees had stored 121 pounds of comb honey, and the blacks 45. This is correct, for I kept an account, and now I have both Italian colonies for 1908.

1. Can I increase to 5 colonies from the 2, and get 500 pounds of honey?

2. Will this plan do? About the first of May take the one with crooked combs, lift from the bottom and place an 8-frame hive with full sheets of foundation on, and then set the bees on it and smoke them down into it. Make sure that you have the queen below and then raise the top hive up and place an excluder between. Let them stand say 5 days and then set the old queen and hive on a new stand. Then 5 days later take a new hive with full sheets of foundation and divide the crooked combs and bees, each one to have 4 frames of foundation and a queen-cell.

If this is the wrong road to travel, please show me the right one.

VIRGINIA.

ANSWERS.—1. I can only make a guess in the case, but my guess is that if you increase from 2 to 5 you'll fall a long ways short of 500 pounds of comb honey in surplus. Please remember that it takes honey to make 3 new colonies, and a lot of it.

2. Sorry to tell you that your plan is not very good. If you wait 5 days before taking away the old colony, there will not be very much brood young enough to start good cells from. Beside that, the bees will be in too discouraged a condition to rear good cells, for all the field-bees will desert and go back to the old stand, and no honey will be carried in.

In the first place, you'll probably find it harder than you think to smoke the bees down. It will be much easier to smoke and drum them up. Then move the queen with its swarm to a new stand, without waiting any 5 days, and the old colony on the old stand will be in good shape to start the best kind of cells. A week later make your division. It will be well, also, at that time to put the hive with the old queen back on the old stand, and put one of the nuclei on the stand you took her from.

Storing Much Pollen in Frames of Comb Honey—Personal Reminiscences.

Last winter I made a number of supers deep enough to take in frames 6 inches in the clear, and was much pleased when I found the bees had filled nearly every frame. They worked in them much better than in the sections. But imagine my disappointment when I discovered that fully ¼ of the cells were filled with pollen in all the frames, but not a single brood-cell in any part of them. I have sometimes, but not often, found brood in the sections, and the same with pollen, never having used a queen-excluder, though I have a number on hand.

1. What, in your opinion, caused the bees to store so much pollen in these frames?

2. Would a queen-excluder have prevented it? I have an idea that the bees thought it a good place to rear brood, so stored a good supply of pollen in the frames, but evidently the queen thought otherwise.

I can not resist the temptation to trespass a little further on your valuable time. While reading your biography in "Forty Years Among the Bees," I was quite impressed with the similarity, in some respects, of our lives, though

American Bee Journal

yours has been on a much higher plane than my own.

I was born on a farm (and have always lived on a farm) January 14, 1835, in the town of Wellington, Ohio, 8 miles south of Oberlin. In the spring of 1846 I moved with my parents, one brother and 4 sisters, to Winnebago Co., Wis., being the first white settlers in what is now 3 townships. Thirty years later I came to this county in Iowa, with my wife and 4 children, and in 1880 I bought the farm we now occupy.

In April, 1863, I bought my first colony of bees, in a box-hive, paying \$6.00. You got yours in a "barrel" nearly 2 years previous. The next year an agent came around selling the "Langstroth" hive, or "farm rights" for that hive, carrying the idea that a colony once located in that hive, the bees would do the rest. Of course I secured some of the hives as soon as possible, and at the end of 2 years I had 7 colonies, and thought I was right in the business, but that fall I put them into a smoke-house to winter, and in the spring all came out—dead. I tried for a number of years with about the same results, to keep bees, till 1883 I bought 2 colonies, secured modern hives for swarms, and have been in the business ever since, keeping on an average about 40 colonies. I now have 43 in the cellar. With one exception. I think the season of 1907 the poorest I have known, my crop of section honey, including pollen, being about 26 pounds per colony, spring count.

But enough for the bee-side of my life. I think I was born with a great love for music, although neither of my parents were musicians. I can't remember when I could not sing (in a high soprano) all the old tunes, such as Balerna, Boylston, Ortonville, Arlington, and hosts of others, by the side of which, for pure harmony, this modern "hop-skip-and-jump" music holds no comparison. At the age of 7 years, I began to "sing by note." After I was 16 I made many a long "Sabbath-day's journey" attending meetings in 3 different school houses (we had no churches in those days), in as many different townships, where I had to "start the tunes." I have taught singing a good many winters, both in Wisconsin and Iowa. I now own a good old violin that I bought 51 years ago last September, at an expense of nearly 5 times that of my first colony of bees. It has been of great service to me for many years in meetings, Sunday-schools, and singing schools, and with the addition of a good organ, there has always been "music in our home."

We have reared 5 children, all of whom are away except the oldest son who runs the farm, and with his family of wife and 3 children lives in another house near by. My wife and I passed our 49th wedding anniversary January 25, 1908. IOWA.

ANSWERS.—1. Your question is not easy to answer. If the frames in the brood-chamber were shallow, that would help account for it. Even if not very shallow, if the brood was clear up to the top-bars, it would be nothing unnatural for the bees to put pollen above as a sort of border. To be sure, my bees often have brood clear up to the top-bar, but then there are sections above, and they don't seem so much like a continuation of the brood-chamber as your shallow frames.

2. A queen-excluder would probably have made little or no difference.

Your surmise that the queen and workers had different views is hardly tenable. Whatever the workers plan for the queen to do, you may generally find her carrying out, if not prevented by an excluder, and in your case there was no excluder. It is not at all uncommon for the bees to store pollen above the brood-nest, for convenience, and this was something in the same line.

Thanks for personal items.

Bee-Cellar Temperature — Bumping Bees Off Frames—Top and Bottom Starters—Afterswarms—Separators.

1. Why must the temperature be so exact in cellar-wintering, not over 50 nor below 45 degrees? Mr. Root claims that if the temperature can not be kept very close to these figures, better winter the bees out-of-doors. Out-door wintering in Jones Co., Iowa, would mean (or would be liable to mean) anything from 50 above to 20 below zero, and that sometimes inside of 48 hours, or nearly so. I have seen the thermometer go down 40 degrees in 24 hours. Now if that wouldn't be a radical change on bees, I don't know what would.

Last year our cellar didn't get out of 45 and 50 degrees, at least at any time that I looked at the thermometer, and that was every few

days. This year it has been the same, only it has stood most of the time at 47 degrees, but the weather has been very fine with no radical changes in temperature. Bees would have been all right out-of-doors so far.

When the cellar warms up to 50 degrees I open the inside cellar door in the evening, which in an hour or two reduces the temperature. The outside door has some cracks at the bottom about one inch wide, which seem to be about right for ventilation, and yet by being in the stairway for some time the air is warmed up some, and at the same time pure. Our cellar is 16x22 feet inside, 6½ foot ceiling, and dry. In 4 years' wintering in this cellar I have lost one colony, and it was no fault of the cellar.

But to tell the truth, after reading so many articles in the bee-papers and bee-books on wintering, I almost got "dizzy." Mr. Alexander says perfect quiet is one of the essentials in cellar-wintering. No doubt it is best, but if you were in our cellar a few minutes when the folks—little folks and all—were in the kitchen, oh dear!—well, the bees could probably swarm right in the cellar and you wouldn't hear them. Now, according to Mr. Alexander, I would figure if I never had wintered bees in there before that, I wouldn't have a bee left by spring.

When such men as E. R. Root, Mr. Alexander, and several others, lay out a plan for cellar-wintering, a young bee-man almost wishes "every day was summer," as he gets no relief until the balmy days of spring come and he can count up his bees. However, I don't propose to kill the goose that laid the golden egg. So I put them in November 20, after having 2 good days of flying. Any comments?

2. In bumping bees off of combs, as illustrated in Gleanings, do you bump queens and all on the ground, or do you look out for the queen. I take it you do. E. R. Root objects in "A B C of Bee-Culture," to your tent escape for supers for the reason that the young bees are unable to get back to the hive. How about them bumped on the ground and in the grass?

3. Has any one ever tried putting a narrow piece of starter on all 4 sides of a section? If so, what would be the probable results?

4. Do I understand you to mean in Gleanings of Dec. 15, that success can not be obtained with top and bottom starters except that the two come very close together? How far apart could they be, and get good results?

5. Do you place the dove-tailed corner of a section on top or at the bottom?

6. In cutting cells to prevent after-swarms, how soon would it be safe to do it and be sure of not having a queenless colony?

7. Would this not be a good time to make increase if one so desires, while he had plenty of ripe cells?

8. A neighbor hived a swarm of bees last summer, clipped the queen, put them on full sheets of foundation, and the bees went to work and made considerable comb and stored some honey, but on examining them one day he was chagrined to find them gone. How could they go with a clipped queen? Where? It beats my time for a clipped queen.

9. I often read of bees in the cellar being "still as death." Isn't it very rare when one can't hear a gentle hum by placing an ear to the hive?

10. What separator do you consider best, fence or sawed wood? I ordered sawed wood, slotted top and bottom.

11. How do you think it would work, and could you see any benefit in boring five ⅛-inch holes in a solid separator opposite the sections? Would this not give a little freer communication to the bees that so many claim to be an advantage? By cleaning them in lye the holes wouldn't hinder in cleaning by breaking out as they might do if scraped. IOWA.

ANSWERS.—1. I once saw a picture of a darkey on the top of a ladder, a pig scratching itself against the foot of the ladder, and the darkey calling down, "Go 'way, go 'way, pig; you'm makin' mischief, dar." I feel toward you a good deal as the darkey did toward the pig. When you try to get me to reconcile the different views as to things about cellar wintering, "you'm shorely makin' mischief for me." It's like a good many other things in bee-keeping, localities, conditions, etc., differ, and then something must be allowed for the uncertainty of the English language.

The cellar must be "not over 50 nor below 45." That's true or it's not true, depending upon how you understand it, and also somewhat upon circumstances. A cellar whose temperature stands most of the time below 45 degrees is not likely to be a good place to winter bees. If it stands most of the time above 50 degrees, and is kept constantly closed, as most cellars are, it is not likely to be a

good place to winter bees. That is probably what was in mind when it was said the cellar must be "not over 50 nor below 45." But a cellar in which bees winter well may run some of the time above 50, and some of the time below 45.

But don't make the mistake of thinking the temperature the only thing. The purity or impurity of the air in the cellar has a whole lot to do in the case—more than is generally supposed. When a closed cellar stands for a time above 50 degrees, it is generally not the temperature that does harm, but the foul air. With ventilation enough so the bees shall be the same as out-doors, there will be no trouble.

Whether "perfect quiet" is an essential for cellar-wintering depends upon what is understood by the term. I call my bees very quiet, yet I don't think there is ever a time when you can not hear a low murmur, something like the wind gently sighing through the pines.

But what's the use of your getting "dizzy" over varying opinions. You seem to have a fair understanding with your bees, and so long as they winter all right for you, never mind about anything else.

2. When E. R. Root objects to my tent escape for the reason that the young bees are unable to get back to the hive, I suspect he is theorizing without having consulted the bees about the matter. At any rate, with many years' experience in a wholesale way there never has been any such trouble "in this locality." But even if there was, it would have no bearing on the case of dumping bees off by the pendulum plan, for they are dumped on the ground directly in front of the hive, and can easily crawl in. If the queen happens to be on the comb, she crawls in, too. Still, it is not very often that a comb is bumped on which the queen is likely to be.

3. I have an impression that it has been tried, but probably without finding it any great advantage.

4. For a 4¼ section I use a top starter 3¼ inches deep and a bottom-starter ¾ deep. That would leave a space of ⅝ between the two starters; but the edges are melted away a little in fastening the foundation in the sections, making the space a little larger. If I should make any difference, it would be to have the space smaller instead of larger, as the bees more promptly fasten together the two starters if the space is small.

5. On the bottom. Looks more symmetrical, and stays in place a little better.

6. I don't see that cutting soon or late has anything to do with leaving a queenless colony, so long as you leave one cell intact. If you cut sooner than 5 or 6 days after the issuing of the prime swarms, other cells may be started. If you cut later than a week later, an afterswarm may get the start of you. But wouldn't you do better to let the bees destroy the cells? In most places they will do so if you proceed thus: When the prime swarm issues, set it in place of the old hive on the old stand, and set the old hive close beside it. A week later move the old hive to a new place 5 feet or more away. That's all; the bees will do the rest.

7. Yes, indeed.

8. If any reasonable amount of a wing was cut off, the bees could not have gone off with the queen. But they may have gone into another hive close by, especially if at that time there was unusual commotion, as of swarming. Or, at the same time that they swarmed out another swarm may have issued in the same apiary, perhaps a little afterswarm, and the two may have united and sailed away. Even if no other colony were within a mile, a stray swarm from more than a mile away may have come along just as the bees in question deserted their hive, and the rest would be easy. And then—some other may be the right answer to the conundrum.

9. A colony may sometimes be so still that no sound will be heard when the ear is placed close to the entrance, but I don't think any colony in my cellar will usually be found so. Even the quietest colony seems to have spells of waking up, and turning over in bed, so to speak. Where 20 or more colonies are in the same cellar, if they act as my bees do, you don't need to put your ear to a hive to hear the hum. Go at any time and stand in the inside doorway in my cellar, and you must be hard of hearing if you can not hear the bees. Possibly I am more easily satisfied than I ought to be, but I am in the habit of counting such things normal, and I really enjoy hearing the drowsy hum.

10. All things considered, I prefer to use a plain wood separator, sliced or sawed, with no slots or scallops.

11. Theoretically, it ought to be better to have such holes; practically, I doubt if it would pay.

With regard to cleaning with lye, Miss Wil-

American Bee Journal

son is more competent to reply than I, as she is the originator of the "lying" business; so I've turned that question over to her, to be answered in the Sisters' department.



Bees Flying in Iowa.

I packed 106 colonies of bees last fall. Bees are flying from 106 hives today.
Leon, Iowa, Feb. 28. EDWIN BEVINS.

A Real Winter Spell.

A real spell of winter struck us hard Feb. 18th and 19th. It was not cold, but a hard storm with a foot of snow. The roads are blocked with snow. The wind blew a gale. Bees flew well one day last week and seem in good condition. F. A. SNELL.
Milledgeville, Ill., Feb. 20.

Bees in a "Vinegary" Cellar.

I see a report is asked for on bees wintering in a cellar that has vinegar stored in it. (See page 55). I kept 12 colonies last winter in a cellar that had 10 barrels of vinegar with the bungs open, and one barrel was spilled all over the floor by having the hoops rust off. Yet the bees all wintered. A. J. MORSE.
Diamond, Pa., Feb. 17.

Bees Seemingly Doing Well.

My bees are doing fine, I think. I have not examined any of them yet. When we have a pretty warm day they are gathering some pollen from the soft-maple trees. I put 14 colonies into winter quarters, and they seem to be all right, and strong. I have one imported queen from central Italy. I want to rear a few queens from her. I have one golden and all the rest are good 3-banded Italians, and hustlers. CHAS. HENSON.
Springdale, Ark., Feb. 24.

Report for 1907.

My bees did fairly well in 1907. I had 25 colonies in the spring. Some of them were quite light. I fed them in April to start breeding, so as to have them ready for the early flow of nectar. I work for comb honey altogether. I got 1,200 pounds of white honey, and sold it at home for 15 cents a pound. I also got 15 good swarms. I have a total of 40 colonies, and put them into the cellar Nov. 20, in good condition. JOHN CLINE.
Darlington, Wis., Feb. 5.

Bees Under Snow.

Our bees are packed in winter-cases on the summer stands, at present surrounded with 2 or 3 feet of snow, and have been for nearly 4 weeks. One fine day last week the thermometer registered 50 degrees, and I commenced digging them out. Two colonies had a cleansing flight, but several thousand bees were lost in the snow. The next day it commenced snowing and drifting as badly as ever, and it is almost useless to do anything until the weather clears up. D. MEUSER.
Elmwood, Ont., Feb. 20.

Several Years' Experience.

I started in 1904 with 2 colonies which cost me \$8. These were in movable-frame hives. The strongest colony cast 2 swarms, but did not yield any surplus honey. The 2 new swarms were put in box-hives, but later I transferred them to movable-frame hives. The other swarm produced about 2 supers of surplus honey. The next year (1905), I purchased 5 more colonies. I then had 9, which increased to 18. One of the young swarms had been hived a few days when another large swarm came and entered the same hive. This colony produced about 75 pounds of honey. I received about 150 pounds of honey from 2 colonies. During the winter of 1905, 9 colonies died. The next year (1906), I had 9 colonies. Two of these were very weak, so I put 3 of them together, making 7 strong

colonies. I put a hive full of empty brood-combs on each colony. About the middle of June I took these hives off and put supers on in their place. After taking off the hives I had 4 hives full of sealed brood. I then took these 4 hives of brood and put 2 hives on one stand. After putting some old bees in these hives, I found that I had 2 strong colonies. I received 2 more colonies by natural swarming. I then had 11 colonies, and about 300 pounds of nice honey. During the winter of 1906, 5 colonies died.

In 1907 I had 6 colonies, 2 of which were weak. These were increased to 9, but I did not get any surplus honey. Late in the fall I fed 50 pounds of sugar. I then bought 100 pounds of sugar, which I made into candy, and fed it to 9 colonies. P. S. JOHNSON.
Lime Springs, Iowa, Feb. 8.

Honey in California.

As things appear to me, the honey crops of 1907 were by no means anything like short in the aggregate. If they had been, the market on comb honey, especially in this State, would be stronger than it is, in spite of the money market stringency. As a matter of fact, San Francisco, Oakland, Sacramento, and Stockton are flooded with comb honey of the better grades, and dark comb finds no buyers at even as low figures as 8 cents per comb. Trying to obtain that figure for my crop, I have the great bulk of it still on hand, and will have to "give in" if I want to move it at all. SEBASTIAN ISELIN.
Stockton, Calif., Feb. 17.

Winter Bee-Shed—Salt as Moth Remedy.

The year 1907 was almost a complete failure throughout central Missouri. White clover came in about the middle of June, and not much of it then.

I have been in the habit of wintering my bees on the summer stands, but after the last spring failure I planned a shed to protect them from the north and northwest winds. The shed is built of common fencing plank with double walls, having a 6-inch space between the walls to be filled with leaves or grass. It is built long enough to shelter 5 colonies. It may be so constructed that it can be taken apart in the summer and stored away until winter comes again. This is my first winter with the shed, and I am having good results so far.

Last summer I noticed that one of my colonies was greatly injured by those bothersome bee-moths. I got a handful of coarse salt and scattered it on the alighting board. The salt was quickly carried in by the bees. A few days later they were busy rolling the dead moth-larvæ out of the hive, and now this is one of my strongest colonies. Do not use table salt, as the coarse kind is better. SLATER, Mo., Feb. 28. R. C. HICKMAN.

Fair Years with Bees.

I have been in the bee-business 4 years. I bought my first swarm from my brother for \$1.00, and hived it in a dry-goods box, and it is still alive and in the same box. I now have 33 colonies of bees. The spring of 1907 being so cold and damp, many bee-men in this vicinity lost many of their bees. I had only one colony of bees starve, and 2 died leaving honey. Over half of my bees did not swarm at all last summer. Some of them gathered almost 100 pounds of comb honey per colony. Others did not furnish any. In all, I averaged 25 sections. At this date my bees are all alive, and seem to have plenty of honey.

I winter my bees by placing them on a platform about a foot high, and have the hives one foot apart. Then I place straw all around them except in front of the hives, and cover them with boards, rubber roofing, or some other material to keep them dry. I had good success last winter, and so far this winter. I hope the next season will be better. W. W. ETTLEMAN.
Sidney, Iowa, Feb. 21.

Vinegar in Bee-Cellar—Bumble-Bees.

On page 55 the question is asked whether bees wintered in a cellar where vinegar is kept would be injured by the strong odor arising from the vinegar. I have had 40 barrels of vinegar in my cellar with my 25 colonies of bees, and the bees came out all right in the spring, without losing a colony. And there is no ventilator in the cellar. All the air that they have is what passes through a cellar that

is closed up for winter. The cellar is also very damp. I put my bees in the cellar every year and never have less than 5 barrels of vinegar in the cellar. Some of the bees are right beside the vinegar. If you keep the barrels of vinegar bunged up tight there will not much acid escape from the barrels.

The same person asked what became of the bumble-bee when cold weather comes on. He said that he never found any after the first cold spell. The workers and drones die off in the fall. Along in the last of July they hatch out 3 or 4 queens, and they are fertilized by the drones the same as our honey-queens are. All the difference is that the drones don't die. When it becomes cold the young queens seek their winter quarters in hollow trees or logs, and sleep there till warm weather in the spring wakes them up, and then they come forth and seek a place to start a nest. The queen will build 4 cells and lay an egg in each cell. Then she will hover them and nurse them until they hatch. She will gather honey enough to keep herself and the 4 bees until they are old enough to gather honey. Then the queen never leaves her nest again except for exercise. I have found bumble-bee queens in hollow logs when cutting them up for wood. M. D. TYLER.
Seville, Ohio.

Some Southern Honey-Plants.

We had the same unfavorable weather here that prevailed elsewhere during April and May, 1907, but by the middle of June the bees were able to do something, and the season as a whole was very good. My average, spring count, was 116 sections as against 104 in 1906. The fall flow from bitter-weed was unusually heavy, and the bees went into winter with hives heavier than I ever knew before.

The last wet spring prevented much good farming land being planted, and this grew up in bitter-weed, so that the acreage in this plant was much larger than usual, and the bees reaped the benefit. Although not palatable when first gathered, this honey loses much of the bitter taste after being kept a while.

I think cow-peas are one of the very best honey-plants we have here in the South. The honey is of very fine quality. There is another plant which I noticed for the first time the past season. It grows in low, marshy places, and is commonly called "barber-root." I do not know whether that is the correct name or not. It blooms early, and the bees just swarmed over it. We have a great variety of honey-plants here, but none in great quantities, so our honey is a blending of many flavors. There is never what could be called a rush, but a steady flow from about the middle of June until frost.

I have not seen any sign of robbing since June 15, the bees getting plenty to keep them occupied. Sometimes, however, we are bothered with robbing late in the fall.

Tupelo, Miss., Feb. 4. J. D. ROWAN.

Bee-Keeping in Oklahoma.

Having been without bees for the past 6 or 7 years I have not been reading the bee-papers and keeping in touch with the bee-keeping fraternity, and so do not know what may have been written on bee-keeping in Oklahoma. To the average person who has taken up his residence in this State from the North and East, the first point that he considers when the question of bee-keeping is mentioned is the wind. While the winds that have always characterized this country still prevail to some extent, they are not nearly so prevalent nor so strong as before the planting of trees and the tilling of the soil began.

After about 12 years' experience in keeping bees in Southern Kansas and Oklahoma, I usually make the reply to such remarks that a bee can work successfully in any wind that a man can. While this may not be literally true it does not miss it very far. While the bees are no doubt greatly handicapped by a strong wind I find that they will work in a very strong breeze if the hives are so arranged that they can alight with their loads. Our prevailing winds here during the working season are from the south. My experience has taught me that the hives should face the north. The heavy-laden bee as she approaches the hive may then drop down in the lee of the hive and safely arrive with its load, while if the hive faces the south I have seen them beaten back from the entrance a dozen or more times before they secure a foothold.

The past season was very adverse for bees in this section of Oklahoma. The month of March was unusually warm, and the bees started breeding as much as they usually do in April or May. In April we had the weather we should have had in March—so cold that the bees scarcely showed themselves the entire

American Bee Journal

month. They commenced to drag out dead ones during the warmest part of the day toward the last of the month, till the ground was covered and the entrance was clogged. As they had plenty of honey in March I could not account for the dead bees, and began to think they had the paralysis. The weather remained so cool that I did not attempt to examine them till the last of the month, when I found the trouble was starvation, as they did not have a drop of honey, and I do not suppose would have lasted 24 hours longer. One colony was so near gone that they did not go down to the syrup I gave them till they were sprinkled with the syrup from my fingers, which they licked from one another. In 5 minutes the air was full of bees, and you may be sure that I did not let them go hungry again.

N. FRED GARDNER.
Geary, Okla., Jan. 6.

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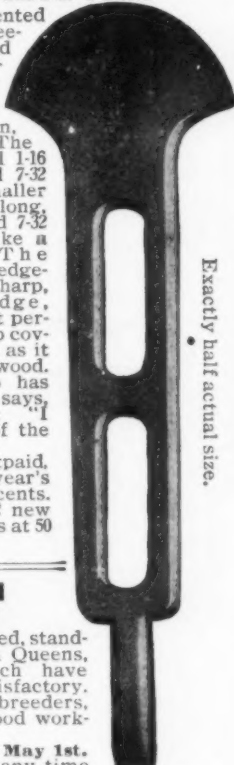
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Send for a FREE Three Months Trial to America's leading fruit paper, The Fruit-Grower, and we will mail booklet telling how to get a tree of Delicious Apple and a vine of Banner Grape, FREE. Two of the best fruits ever introduced, hardly all over the country, finest quality. Delicious Apple sold last season at \$6 a box. If you have only a few trees or plants you need this paper. Tells all about fruit—how to plant, cultivate, prune, spray, pack, market. Regular price \$1.00 a year, and two new fruits included free, but will make special offer if you answer this ad.
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Send your paper three months FREE on trial, after which I will notify you to stop or become a subscriber.
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Mention Bee Journal when writing.

ITALIAN QUEENS

By RETURN MAIL

Or Money Refunded. Circular Free.

D. J. BLOCHER, - Pearl City, Illinois
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MARSHFIELD BEE-GOODS

Your orders are what we are after now for fall and winter. Drop us a card or letter telling what you want, and we will make **Surprising Prices** to you.

MARSHFIELD MFG. CO.,

Marshfield, Wis.

IOWA—J. W. Bittenbender, Knoxville, Gregory & Son, Ottumwa.
KANSAS—S. C. Walker & Son, Smith Center.
MICHIGAN—Lengst & Koenig, 127 South 13th St., Saginaw, E. S.
S. D. Buell, Union City.
NEBRASKA—Collier Bee-Supply Co., Fairbury.
CANADA—N. H. Smith, Tilbury, Ont.

ARIZONA—H. W. Ryder, Phoenix.
MINNESOTA—Northwestern Bee-Supply Co., Harmony.
ILLINOIS—D. L. Durham, Kankakee.
OHIO—F. M. Hollowell, Harrison.
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SPECIAL OFFER
#12 50
United
100-EGG INCUBATOR
Without question this is the best Incubator Offer this season. A money-saving offer on a money-making machine. For \$12.50, cash with order, we will ship complete, all ready to run, a 100-egg "United Special" Incubator to any one east of the Mississippi River—west of the River we allow the amount of freight to the River. The machine is the regular "United Special" Model 48, with all the latest improvements, is double-cased, lined with Lone Star Roofing and wool packing, with a heavy sheet of asbestos paper covering the radiator, and contains the celebrated "United" heating system. Send the \$12.50 today, or write for free catalog.
UNITED INCUBATOR & POULTRY SUPPLY MFG. CO.
Dept. 27. 26-28 Vesey St., New York City.

FREIGHT PAID

HAND-MADE SMOKERS

Extracts from Catalogs—1907:

Chas. Dadant & Son, Hamilton, Ill.—This is the Smoker we recommend above all others.

W. B. Lewis Co., Watertown, Wis.—We have sold these Smokers for a good many years and never received a single complaint.

A. I. Root Co., Medina, Ohio.—The cone fits inside of the cup so that the liquid creosote runs down inside of the smoker.

All Bingham Smokers are stamped on the tin, "Patented 1878, 1892, and 1903," and have all the new improvements.

Smoke Engine—largest smoker made.....	\$1.50—4	inch stove
Doctor—cheapest made to use	1.10—3½	"
Conqueror—right for most apiaries	1.00—3	"
Large—lasts longer than any other90—2½	"
Little Wonder—as its name implies65—2	"

The above prices deliver Smoker at your post-office free. We send circular if requested.

Original Bingham & Hetherington Uncapping-Knife.

T. F. BINGHAM, Farwell, Mich



Patented May 20, 1879.

BEST ON EARTH.

BEE-SUPPLIES

40-Page Catalog Free. Brimful of the latest make of hives, etc. Our Supplies will please you in every way. Prices are right. We allow the usual early-order discounts. Italian Bees and Queens in season.

JOHN NEBEL & SON SUPPLY CO.,
High Hill, Montg. Co., Mo.
Mention Bee Journal when writing.

Bee-Keepers' Supplies Sold

At the very lowest profit possible

Dovetail Hives, Sections, Etc.—A complete stock bought in car lots. Subscriptions given free with orders. Send for my 32-page catalog free.

W. D. SOPER, Jackson, Mich.
Mention Bee Journal when writing.

American Bee Journal

No Tin Caps
Required
With

**Vulcanite
ROOFING**

**Making an
Old Roof
Better Than
New**

No matter how badly decayed the shingles or tin on the old roof **Vulcanite Roofing** restores the roof and makes it better than new, because it costs considerably less in the first place, and is cheaper in the long run because it does not require annual re-painting and constant repairing to keep it in good order. **Vulcanite Roofing** is made from a mineral substance—wears like the everlasting rocks and is wind, water, weather, acid and fire proof—won't freeze in cold weather or crack and peel off in dry weather. It is ready to lay and can be easily laid by anyone who can drive nails—packed in each roll are the nails and cement, all ready to begin business—nothing more to buy.

For every building on the farm that needs a good roof there is nothing that compares with **Vulcanite Roofing** in price, appearance and wearing qualities—it makes a handsome roofing—a better building. Try it on the new roof and save repair bills—on the old roof and make it better than new. For more proof write for samples and booklet—**"The Right Roofing and the Reasons Why"** giving a lot of good reasons why **Vulcanite** is right. The are both free.

Ask your dealer for **Vulcanite**, if he does not handle it, write to us.

Patent Vulcanite Roofing Co.,
625-659 S. Campbell Ave.,
Dept. 48 CHICAGO, ILL.




Cows' Relief

Cows' Relief is a specific Remedy for all troubles of bag and teats. It enables dairymen, farmers and other cow owners to keep their cows in a healthy and profitable condition.

Cows' Relief is one of the most perfectly penetrating and disinfecting compounds in existence. It goes directly to the seat of the trouble, relieves the congestion and breaks up the bunches that prevent a natural flow of milk.

FOR CAKED BAG

Twelve to twenty-four hours' time is all that is required to relieve any case of Caked Bag, if applied freely at the beginning of the trouble.

For heifers with first calf Cows' Relief works in a most pleasing, prompt and successful manner. It relieves the soreness and swelling in the bag and is worth its weight in gold to every dairyman. It keeps the teats soft and flexible, and renders the animal quiet and docile.

H. C. Rice, Farmington, Conn., says: "Please send me two boxes of Cows' Relief. Enclosed find check for same. Please send at once. I wouldn't be without it in my stable."

L. F. Cuthbert, Hammond, N. Y., says: "I have used your Cows' Relief and find it a very valuable remedy for Caked Bag."

We have scores of testimonials like the above. Ask your dealer for Cows' Relief and insist on having the genuine. If he cannot supply you write direct to us, enclosing \$1 for large package prepaid, (enough for four or five ordinary cases). Your money back if you are not satisfied. Positive guarantee on every package. Or send your name and one neighbor's who keeps cows, stating how many you each have, and we will send our book concerning "Cow Troubles," also Goldline Cow Watch Charm FREE while they last.

OUR HUSBANDS MFG. CO.,
716 Chapel St., Lyndon, Vt.

Tennessee-Bred Queens

All from extra-select mothers, Davis' Best, and the best money can buy

3-band and Golden Italians bred $3\frac{1}{4}$ miles apart, Carniolans 5, Caucasians 7 miles away

THREE-BAND AND GOLDEN ITALIANS								
November 1st to July 1st				July 1st to Nov. 1st			BREEDERS	
	1	6	12	1	6	12		
Untested	\$1.00	\$5.00	\$ 9.00	\$.75	\$ 4.00	\$ 7.50	Straight 5-band	\$10.00
Select Untested	1.25	6.50	12.00	1.00	5.00	9.00	Select Golden	4.00
Tested	1.75	9.00	17.00	1.50	8.00	15.00	Select 3-band	4.00
Select Tested	2.50	13.50	25.00	2.00	10.00	18.00	Select Carniolan	5.00
							Select Caucasian	5.00

Untested Carniolan and Caucasian, \$1.25 each; 6 for \$7.00; 12 for \$12.00.

Nuclei, without queens: 1-frame, \$2.50; 2-frame \$3.50; 3-frame \$4.50. 1 Full Colony, 8-frame \$9.00.

Select the queen wanted and add to the above prices.

NOTE

I have transferred to my son, Benj. G. Davis, my straight 5-band and Golden department, and in order to receive the promptest attention, all correspondence for these should be sent direct to him. He practically grew up in my queen yards, rears queens by my methods, has had charge of this department for years, and understands his business. No bee-disease.

JOHN M. DAVIS, Spring Hill, TENNESSEE, U. S. A.

Mention Bee Journal when writing.

BARNES' Foot-Power Machinery



Read what J. I. PARENT, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter, 50 chaff hives with 7-in. cap, 100 honey-racks, 500 brood-frames, 2,000 honey-boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all you say it will." Catalog and price-list free.

Address, **W. F. & JOHN BARNES,**
995 Ruby St., Rockford, Ill.

Engravings For Sale

We are accumulating quite a stock of engravings that have been used in the American Bee Journal. No doubt many of them could be used again by bee-keepers in their local newspapers, on their stationery, or in other ways. Also, if we can sell some of them it would help us to pay for others that we are constantly having made and using in our columns. If there is any of our engravings that any one would like to have, just let us know and we will quote a very low price, postpaid. Address,

GEORGE W. YORK & CO.
CHICAGO, ILL.

Now Ready

The 97th edition of our catalog is now ready. If you have not received a copy and are ready to place an order for any supplies write for a copy. Our mailing list has over 400,000 names, so time is required to get the entire edition mailed. We explain this so any one may understand why a catalog may not reach him early.

The A B C of Bee Culture

When we announced the completion of the new edition late in 1907 there was a good deal of satisfaction to notice the big bunch of orders on hand, although we did regret the unavoidable delay in getting the books to some customers who had waited patiently for months. Over two thousand copies of this edition have already been sent out. We believe all urgent orders have been filled. We felt that the change of price to \$1.50 postpaid might cause a little slackening in the demand. Not so, however, for in all our experience the orders never came faster.

We have also of the English edition a half leather at \$2.00 and full leather at \$2.50, postpaid.

GERMAN EDITION, A B C der Bienenzucht in paper covers, \$2.00. Cloth-bound at \$2.50, postpaid, to any country.

FRENCH EDITION, A B C de L'Apiculture, cloth-bound, at \$2.00, postpaid, to any country.

THE A. I. ROOT COMPANY, MEDINA, OHIO

Gleanings in Bee Culture

If you haven't seen a late copy of Gleanings you can't tell from any brief description how really magnificent it is. There are many valuable departments, and our subscribers just at this season of the year are telling how much they appreciate the paper.

Each issue is very fully illustrated. The covers are done by the finest engravers in Chicago, and our writers are the best in the land. Besides dozens of writers of prominence whose names we can't even mention for lack of space, we have such men as Dr. E. F. Phillips, U. S. Dept. of Agriculture; Dr. Edward F. Bigelow, Associate Editor St. Nicholas; F. Dundas Todd, former Editor Photo-Beacon; Allen Latham, Connecticut, etc.

A trial of six months (12 numbers) costs 25c. If in addition to your own subscription you secure others for six months keep 10c on each one for your trouble. A liberal cash commission to those who do canvassing for us.

Gasoline Engines and Power Honey Extractors

For large apiaries, or where the honey comes with a rush and labor is scarce, you should investigate our power machines. A circular of these will be sent on request.



STRAWBERRIES WORTH \$20

**GROWN
FROM
\$1 WORTH**

of plants. That's good margin. Besides, the "W. H. Taft" is an easy, quick seller. No strawberry finds a readier market because it's attractive; a red, round berry; delicious odor, juicy, rich-flavored. It is a strong, prolific grower, producing berries firm and solid, making good shippers. Limited stock. 25 plants, 50c; 50 plants, \$1.00, sent postpaid. Catalog of Seeds, Small Fruits, Roses, etc., sent free. BINGHAMTON SEED CO., 300 Court St., Binghamton, N. Y.

1884

1908

Root's Goods always in stock

FOR YOU

Twenty-four successful years manufacturing bee-supplies and rearing Italian Bees and Queens. Root's Goods in Stock. Write for Catalog and Prices.

J. M. Jenkins, Wetumpka, Alabama

6 HARDY BLIZZARD BELT EVERGREENS FREE

To prove that our EVERGREENS are HEALTHY, HARDY and Vigorous, we offer to send SIX fine two-year-old trees, entirely FREE OF CHARGE, to every property owner who will answer this advertisement. Mailing expense 5 cts., which send or not, as you please. A postal will bring them and our catalogue which contains many COLORED PLATES of our BLIZZARD BELT FRUITS; SPECIAL BARGAINS and a mine of valuable information for fruit growers. We want to become acquainted with you, and it will pay you to get into touch with our HARDY "BLIZZARD BELT" stock and our liberal manner of doing business. THIRTY-EIGHT years' experience in growing HARDY "BLIZZARD BELT" trees. Write to-day.

THE GARDNER NURSERY COMPANY,
Drawer 45. Osage, Iowa.

Make Your Backyard Pay

\$20 Return from 25c

One large packet of each of the following named seeds will plant space 30x50 feet and with proper cultivation will produce \$20 worth of vegetables. We mail these 16 large packets for 25 cents: Beet, Bean Cabbage, Carrot, Celery, Chard, Cucumber, Onion, Parsnip, Parsley, Peas, Pepper, Radish, Tomato, Turnip, Sweet Corn; all of choicest varieties and grown from selected stock. Or for ONE DIME we will mail Beet, Cabbage, Cucumber, Lettuce, Onion, Parsnip, Parsley, Radish, Tomato, Turnip; seeds enough to plant space 20x30 feet.

Prepare for spring by sending today for one of the above assortments and our 1908 Catalog and Garden Guide offering \$45.00 in prizes.

BINGHAMTON SEED CO.,
300 Court St., Binghamton, N. Y.

Fall Supplies

—FOR—
Bee-Keepers

Everything you want. All made by us in our own factories. At **Lowest Prices.**

THE AMERICAN BEE-KEEPER, a monthly at 50c a year. Published 17 years.

Sample copy and illustrated catalog and price-list **FREE.** Address,

THE W. T. FALCONER MFG. CO.,

Dept. B. JAMESTOWN, N. Y.

HONEY

We have some fine, thick white extracted honey, 2 cans to a case, 124 lbs. at 9 cts. a lb., 5 cases 84 cts. lb., 10 cases 82 cts. lb. Sample 10 cts.

HONEY-JARS

No. 25 jar \$5.50 gross, 5 gross \$5.25 gross. 1 lb square jars \$5.00 gross. Catalog of supplies free

I. J. STRINGHAM,
105 Park Pl., N. Y. City

APIARIES, Glen Cove, L. I.

Mention Bee Journal when writing.

Honey and Beeswax

CHICAGO, Feb. 29.—The demand for honey is not as large as is usual at this season of the year. Dealers say they have little call for it, and they buy only what they have a probable sale for within a few days. Prices range from the best grades of comb honey, such as fancy, at 16 to 17c; off grades from 1 to 5c lower. There is some call for buckwheat comb honey, of which there is none on this market. Extracted ranges in price from 8 to 9c for the white grades, according to what they are and condition. Amber grades sell from 6 to 7c. The trade is not active, and stocks are largely of western crop. Beeswax, 28 to 30c.

R. A. BURNETT & Co.

CINCINNATI, Feb. 29.—There has been very little demand for honey the past month. We do not look for a good trade until business in general revives, and things all around don a more cheerful air. We quote amber extracted honey at from 6 to 7 1/2c, according to the quality and quantity purchased. Finer grades of extracted honey at 8 to 10c. Comb honey is moving very slowly; there is simply no demand for it. We are asking from 16 to 18c, according to the quality and quantity. Good to choice yellow beeswax 30c cash, or 32c in trade.

THE FRED W. MUTH CO.

Headquarters for Bee-Supplies

LARGE DISCOUNTS OFFERED ON EARLY ORDERS. Have a large stock on hand, and can supply promptly. Freight Rates from CINCINNATI are the **LOWEST, ESPECIALLY FOR THE SOUTH**

As almost all freight now goes through Cincinnati. You will save money buying from me. Catalog mailed free. Send for same.

WILL BUY OR SELL YOU

HONEY

IF YOU HAVE ANY TO SELL

mail sample and state lowest price expected delivered Cincinnati. If you want to buy, state quality and quantity and I will cheerfully quote you price.

Beeswax Wanted

Will pay, at all times, highest market price on receipt of goods.

C. H. W. WEBER CINCINNATI

Office and Salesrooms, 2146-48 Central Ave. Warehouses. Freeman and Central Aves.

CINCINNATI, Feb. 29.—The market on comb honey is very dull—there is no demand. We quote white clover at 16c. Extracted, amber, fair demand at 6 and 6 1/4c. Water-white sage, brisk at 9 1/2 and 10c. Beeswax is slow at 33 per 100 lbs. C. H. W. WEBER.

LOS ANGELES, Feb. 20.—Water white honey, extracted, 7 1/2c per pound; white honey, 7 cents; light amber, 5 1/2 to 6 1/2c. Comb honey, white, 16c; light amber, 13 to 15c. Beeswax, 25 to 28c.

H. J. MERCER.

KANSAS CITY, Mo., March 2.—The demand for both comb and extracted is only fair; the receipts more liberal. We quote: Fancy white comb, 24 sections, \$3.25 per case; No. 1, \$3.10; No. 2 and amber, \$2.75. Extracted, white, 8 to 8 1/4c. Beeswax, 25c.

C. C. CLEMONS & Co.

DENVER, March 3.—The demand for comb honey is lighter than usual at this time of year, while the trade in extracted is fairly good. We quote: No. 1 white comb honey, per case of 24 sections, \$3.25; No. 1 light amber, \$3.10; No. 2, \$2.75 to \$2.90. No. 1 white extracted, 9 to 10c; light amber, 8 to 9c; strained, 6 1/2 to 7 1/4c. Clean yellow beeswax, 25c delivered here.

THE COLO. HONEY-PRODUCERS' ASS'N.

TOLEDO, Feb. 29.—The market on comb honey remains the same as our last quotations, and the demand has not increased but still remains the same, owing to the number of people out of employment. We are getting for fancy white from 17 to 18c in a retail way by the case, with very little demand for lower grades, and no demand whatever for extracted honey. Beeswax, 28 and 30c.

GRIGGS BROS. & NICHOLS Co.

INDIANAPOLIS, Feb. 29.—Demand for best grade of extracted honey is good, while the demand for comb honey is not brisk. Bottled honey in retail groceries is selling slowly, for two reasons—dull times, and also from the fact that some bottlers have been putting out a very inferior grade of honey. Jobbers are offering the following prices, delivered here: No. 1 and fancy comb, 16 to 17c, net weight; extracted white clover, 9 to 10c; amber honey in barrels, 6 to 6 1/2c. Beeswax 28c cash, or 30c in exchange for merchandise. WALTER S. POWDER.

SAN FRANCISCO, March 4.—Stocks of honey on the Coast are light, and water-white and white honey are practically not quotable in this market. These two grades would be obtained only in the Southern California districts, and the market is perfectly bare of these grades. Light amber honey is scarce in Southern California districts, and a limited quantity could be quoted on the basis of 5 1/4c Coast, freight rate \$1.00. There are several cars of light amber alfalfa honey

in the San Joaquin Valley that would be quotable at from 5 to 5 1/4c, also with a freight rate of \$1.00. Beeswax is also scarce and is quoted from 28 to 29c, f.o.b., common California point. The quantity of beeswax left on the coast is very nominal indeed.

GUGGENHIME & Co.

PHILADELPHIA, Feb. 28.—Since the holidays honey is moving very slowly, both comb and extracted, with very few arrivals from out of town. Comb honey has declined in price, while extracted honey keeps up fairly well with demand about equal to the supply. We quote: Fancy white comb honey, 16c; No. 1, 15c; amber and off grades, 12 to 13c. Extracted, fancy white in 60-lb. cans, in a small way, 9 to 9 1/2c; amber in cans or barrels, according to grade and quality, selling from 7c up. Beeswax, 28c. We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, Feb. 29.—Comb Honey—There is very little demand, and that only for fancy grades. While the receipts are not large it is evident that there is still some comb honey left back, as we are receiving straggling lots right along. If this honey had been shipped and sent to market last fall it would have found ready sale at a much better price than can be realized now. Off grades and dark are almost neglected and hard to dispose of. We quote: Fancy white, 15c; No. 1, 13 to 14c; No. 2, 12c; dark, 10 to 11c, according to style of package and quality. Extracted Honey—The market has been quite dull for the past 2 months, and while there is a fair demand, stocks are quite heavy on account of continuous arrivals. The market as a whole is weak, and prices on the decline. White, 8 to 9c; light amber, 7 to 8c; amber, 6 to 7c; Southern and West Indies, in barrels, at 60 to 65c per gallon. Beeswax, quiet at 28 to 30c.

HILDRETH & SEGELKEN.

HONEY AND BEESWAX

When consigning, buying, or selling, consult

R. A. BURNETT & CO.

199 South Water St.

Chicago, Ill

Western Bee-Keepers We Will Show You how to save money. Send for our new catalog of the best Bee-ware made.

THE COLORADO HONEY-PRODUCERS' ASS'N, Denver, Colo.

MR. BEE-KEEPER

Was 1907 a **POOR YEAR** for you?
It was a **GOOD YEAR** for users of

Dadant's Foundation

One dealer used	-	-	-	14,000	pounds	Another dealer used	-	-	-	4,500	pounds
Another dealer used	-	-	-	7,250	"	Another dealer used	-	-	-	4,500	"
Another dealer used	-	-	-	6,000	"	Another dealer used	-	-	-	4,500	"
Another dealer used					-	-	-	-	3,000	pounds	

Thousands of pounds sold to the bee-keeper direct or worked up for him out of his beeswax. The *dealer* likes *Dadant's Foundation* because the bee-keeper likes it.

The bee-keeper likes it because his *bees* like it.

The *bees* like it because it is exactly like their own comb—so *pure* and *sweet* and *clean*.

Dadant's Foundation is the Standard because it is the *best*.

Wax worked into Foundation. Send for our Supply Catalog.

DADANT & SONS,

Hamilton, Illinois



**PATTEN'S
TESTED
TREES**

Seven splendid new varieties hardy Northern grown apples. Specially adapted to the Northwest. Winners of Wilder Medal, highest award in U. S. Rapid growers, big yielders, good keepers and shippers. Money makers for fruit growers. Also, **NORTHERN GROWN** shade and ornamental trees for group, specimen, or windbreak planting. Especially for locations where only hardy stock will thrive. For 5c for postage and packing, we will send beautiful Hybrid Perpetual Rose and illustrated catalog with full description and prices free. Charles City Nursery & Orchard Co., Box 46, Charles City, Ia.

Mention Bee Journal when writing.



EGG MAKING

is a hen's natural work. Cut bone is the raw material she needs to make her lay an egg a day. A **CROWN BONE CUTTER** will prepare the food from scrap bones quickly, easily. Write for catalog—tells about the Crown. Wilson Bros., Box 618, Easton, Pa.


Mention Bee Journal when writing.



CAPONS PAY

Capons are cheaper and easier raised, bring double price on the market. Caponizing is easy, and soon learned. Set prepaid with "easy to use" directions, \$2.50. Capon book free, tells how. Write for it today. G. P. Pilling & Son Co., Arch St., Philadelphia, Pa.

Mention Bee Journal when writing.



WHERE TO BUY

The poultry-raiser, the fancier and the farmer will appreciate our big store. It will save shopping around—save freight charges, and be handier in every way. We can fill all orders promptly with the best goods on the market at money-saving prices. Get our catalogs before you buy. Write today. **UNITED INCUBATOR & POULTRY SUPPLY MFG. CO.** Dept. 27, 26-28 Vesey St., New York City.

BEE KEEPING ON THE FARM

Double Your Colonies

Honey is high—short crop last year.

The shortage of the honey crop for 1907 in the United States warrants bee-keepers to increase their colonies. About a half crop was produced, and in California, where the cheap honey comes from, only a quarter of the average crop was produced.

Get Ready Now for More Honey

Let us send you our catalog. We are manufacturers, and sell only our own make of bee-supplies. Minneapolis is the largest lumber distributing point; the Mississippi River furnishes us power, and our organization and labor conditions are the best for economical production. Send us an estimate of your requirements and let us give you prices. We have a large stock of standard bee-supplies on hand—

• Dovetailed Hives, Sections, Section-Holders, Separators, Brood-Frames, Comb Foundation, Smokers, Extractors, Shipping-Cases, etc.

MINNESOTA BEE SUPPLY CO., 52 Nicollet Island, Minneapolis, Minn.